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Deaf Illiteracy: A Genuine Educational Puzzle or an Instrument of Oppression? A Critical Review

by

Roger Carver ©

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled "Deaf Illiteracy: A Genuine Educational Puzzle or an Instrument of Oppression? A Critical Review," submitted by Roger John Carver in partial fulfilment of the requirements for the degree of Master of Education.

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ABSTRACT

This thesis crititically reviews the illiteracy situation of deaf students and persons in the United States and Canada. It deals with the question of whether such illiteracy is a difficult pedagogical problem as a direct consequence of deafness or whether it actually is a solvable one but has been created as an outcome of oppressive practices through the dominance in the deafness field by hearing persons. The underlying philosophy of the field is reviewed as well as current practices and methods with specific reference to its deficit model orientation. Newer literacy and pedagogical theories and approaches such as those of Frank Smith and Paolo Freire and of bilingualism and English as a Second Language (ESL) are reviewed as possible solutions to the illiteracy problem of the deaf. The review suggests that the literacy status of the deaf could be enhanced through an application of socio-cultural and -linguistic concepts and approaches rather than through a "treatment" of the hearing and speech deficit and a structured approach to language development. The review has implications for further research in and review of the underlying philosophy of deaf education and intervention strategies, particularly for early intervention programs, educational programs, and teacher training programs.

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I: INTRODUCTION

> **There is, I think, no point in the philosophy of progressive education which is sounder than its emphasis upon the importance of the participation of the learner in the formation of the purposes which direct his activities in the planning process, just as there is no defect in traditional education greater than its failure to secure the active co-operation of the pupil in construction of the purposes involved in his studying. But the meaning of purposes and ends is not self-evident and self-explanatory - *John Dewey*** [1]

The outstanding phenomenon in the field of education of the deaf is the inability of deaf students to master reading and writing skills on a par with their hearing peers. This thesis explores the question of whether deaf illiteracy is a genuine educational puzzle which educators have vainly expended so much time and effort through many years to solve or whether it is actually an instrument of oppression used to maintain the deaf population in a marginalized state.

The paper critically reviews the literacy situation of the deaf and explores the possible reasons for it. Methodological issues are examined to assess their impact on this situation; there have been claims and counter-claims advanced in favour of or against certain methods. Factors which have been identified as reasons for producing literate or illiterate deaf persons are probed: hearing loss etiology, socio-cultural factors, cognitive and linguistic development, pedagogy and communication modes. The purpose of the present literature review is to critically examine certain pedagogical approaches and issues with a view to providing suggestions for further research and/or review.

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[1] Cited in Shor & Freire (1987)

For the purposes of this thesis, key terms need to be defined operationally:

- *Hearing impairment* is a generic term used to define a loss of hearing severe enough to cause communicative disorders requiring remedial or educational treatment. It is usually applied to two distinct groups: the deaf and the hard of hearing (Rodda & Grove, 1987).
- *Deafness* is another generic term with similar connotations, although Furth (1973) defines it to be a hearing loss of sufficient severity to prevent aural comprehension of speech. Rodda & Grove also apply this term, for the purposes of their book, to "that group of individuals who have severe or profound hearing losses predating the acquisition of spoken language" (p. 2). The review is limited to severe or profound prelingual deafness and to deaf individuals who generally do not have additional handicaps.
- *Deaf* is an audiological term applied to those individuals who are unable to fully acquire spoken linguistic skills through their auditory channel, aided or unaided. This term also encompasses those individuals within the communication continuum ranging from the pure oral mode to a pure manual mode. Deaf (with a capital D) is a sociological term applied to those individuals or

groups who identify with the language and culture of Deaf people (Woodward, 1972).

•*Literacy* is used to describe fluency in both reading and writing in the spoken language of the society. Functional literacy is defined as "the ability to use printed and written information to function in society" (Southam, 1987, p. 7).

•*Illiteracy* is the inability to utilize printed and written information. The functional illiterate is described as being unable to (Southam, 1987, p. 13):

- Read and understand the right dosage from an ordinary bottle of cough syrup;
- From six road signs, pick out which one warns of a traffic light ahead;
- Figure out the change from $3 if you ordered a soup and sandwich;
- Sign one's name in the correct spot on a social insurance card;
- Circle the expiry date on a driver's license;
- Answer four questions about a meeting arrangement, including the date, time and people involved;
- Circle the long distance charges on a phone bill;
- Find a store in the Yellow Pages;
- Find an amount on the income tax table.

•*Reading*, is, as Webster (1988) notes, a very complex function and its definition a circular one, depending on the situation. However, for the purposes of this paper, Kelly's (1988) description will be utilized: reading facilitates the "construction of meaning by exploiting personal knowledge related to the orthography, phonology, word meaning, content, and discourse structure of the text" (p. 3). This is qualified by Webster as a social process in which the reader enters into a "partnership" with the author(s) and utilizes reading to organize themselves and keep in touch with the world.

•*Writing,* again, is a complex function as well as a social process. It is defined by the National Council of Teachers of English as "the process of selecting, combining, arranging, and developing ideas in effective sentences, paragraphs, and, often, longer units of discourse" (U.S. Department of Health, Education, and Welfare, 1979, p. 12). Ciocci and Morrell-Schumann (1987) describe it as "an active process of discovery and intervention in which the individual writer explores tools, purposes and imagination" (p. 123). They go on to state that it cannot be taught, but is "nurtured through environment and approach" (p. 123).

• *American Sign Language* (ASL) refers to the natural language of the Deaf communities throughout the United States and Canada. Being a visually-based language designed for spatial information processing, it possesses a syntactical structure that is very different from that of English (Klima & Bellugi, 1979; Stokoe, 1960). It is often mistaken for a "broken" or "pidgin" version of English. There are other sign languages of the Deaf such as the British Sign Language (BSL) and *Langues Signes des Quebecois* (LSQ) which may be considered along with ASL in this thesis.

• *Manually Coded English* (MCE) is a generic term used to describe the various sign systems such as Signing Exact English

(SEE I) (Anthony & Associates, 1971), Seeing Essential English (SEE II) (Gustason, Pfetzing, & Zawolkow, 1972), Signed English and Language of Visual English (LOVE) (Wampler, 1971). They utilize existing or modified ASL signs and present them in a sequence resembling English syntax, complete with English markers and modifiers which are either absent from (such as articles) or present (such as verb tenses) in a totally different form in ASL (such as facial expressions, location of signs, and speed and frequency of sign movements). The underlying rationale for MCE is that it would make English more visible to the deaf and enable them to master its syntax.

•*Total Communication* (TC) is a term coined by Roy Holcomb in 1968 describing a "flexible approach to communication in teaching deaf children" (Evans, 1982, p. 12). TC has been defined by the Conference of Executives of American Schools for the Deaf (CEASD) in 1976 as "a philosophy incorporating the appropriate aural, manual, and oral modes of communication in order to ensure effective communication with and among hearing-impaired persons" (cited in Pahz & Pahz, 1978, p. 67).

Throughout this paper there are references to the "deaf child" or "student". For reasons of style, only masculine pronouns will be used when referring to them.

A review of the literature indicates that literacy has been a major issue in the field of deafness for at least two centuries with few new solutions in sight (Brill, 1984; Lane, 1984; 1986). Abbé Charles-Michel de l'Épée, who founded the world's first public school for the deaf in Paris in 1760, was concerned about the ability of his pupils to write in perfect French, leading him to devise a manually-coded French sign system. He wrote to his protege, Abbé Roch-Ambroise Sicard, on this topic: "Do not hope that they can ever express their ideas in writing. Our language is not theirs; theirs is sign language. Let it suffice that they know how to translate ours with theirs, as we translate foreign languages ourselves, without knowing how to think or express ourselves in that language" (Cited in Lane, 1984, p. 62).

Wood, Wood, Griffiths and Howarth (1986) indicate that they are not able to write a treatise on an approach that would guarantee deaf children reading levels at least on a par with eleven-year-old hearing children upon leaving school. They "would be prepared to demand a Nobel Prize for anyone who could provide a compelling solution to this problem" (p. 94).

Blackwell, Engen, Fischgrund, and Zaracadoolas (1978) observe:

> There has been a general trend throughout the history of the education of the hearing impaired towards producing a proliferation of oversimplifications with promises for language mastery. Such promises are dependent upon communication systems of various kinds, utilization of media packages or the introduction of programmed curricula. Although some of these activities have met with limited success, it must be clearly stated that the development of language for the hearing-impaired child will never be a simple process. To suggest that it can be so is cruel to the children, parents, and teachers involved (p. 1).

This thesis neither aspires to the Nobel Prize nor oversimplifies this complex issue as suggested above.

There is a sense of urgency to this situation which is underscored by Ryall (1988) who addresses the rapid technological changes affecting the nature of the labour market in the light of "a serious flaw in what I call ongoing learning process for the average deaf person":

> The changing workforce is forcing deaf people to become functionally literate to maintain employment or to enter the workplace. Efforts have been made in the past to accommodate them in a special way such as modification of the entry requirements to work; however, the reality is that deaf adults must have some degree of functional levels of reading and writing in order to be successful in employment. The literacy demands continue through the entire work career of the person. If we can overcome the lack of functional literacy of most deaf people, then that alone is one of the major barriers eliminated as far as employment is concerned.

II: STATE OF AFFAIRS

Studies establishing the literacy deficit in deaf students are extensive (e.g.: Allen, 1986; DiFrancesca, 1972; Quigley & Kretschmer, 1982; Trybus & Karchmer, 1977). Trybus (1978) discusses data obtained from nation-wide studies of Stanford Achievement Test (SAT) scores of hearing impaired students. He notes the median score of 19-year-old hearing impaired school-leavers is at the 4th grade level as compared to a 10th grade level for hearing children. He considers it even more discouraging to note that the 90th percentile score of deaf students at the age 19 is at the 8th grade level, or two grade levels below the average for their hearing peers. He comments (p. 214):

> Not only is the midpoint of the distribution very low, therefore, but only an extremely small percentage of deaf children achieve scores as high as the average for hearing children. In one sample study of approximately 1,000 hearing impaired children, we were unable to locate one child who had scored at grade level.

Wrightstone, Aranow and Moskowitz (1963) conducted a study of the reading abilities of 4,624 deaf students between the ages of 10.5 and 16.5 in the United States and Canada. Utilizing the Metropolitan Achievement Test (MAT), the investigators found that the mean reading achievement score of the subjects rose from a grade level of 2.7 at age 11 to only 3.5 at 16, a miniscule overall increase of 0.8 grade level in five years. Gentile (1971) reports a similar pattern from an analysis of the performance of 16,908 deaf students in the SAT: an increase in scores in the Paragraph Meaning sub-test from an average grade equivalent of 1.61 at age 6 to 4.36 at age 19. In a repeated measures statistical analysis of data obtained from the SAT (Hearing Impaired Version) scores of 1,664 hearing impaired students, ranging in age from 12 to 18 years, the growth of reading achievement of the typical American hearing impaired student over a five-year period was approximately one-third that of the average hearing student (Wolk & Allen, 1984). Quigley and Kretschmer (1982) note a consistent educational retardation of 2 to 5 years in comparing the achievement test results of hearing impaired children with those of hearing children. A growth rate of only 0.2 grade level in reading per year of schooling for deaf children was observed by several researchers (DiFrancesca, 1972; Furth, 1966b; King & Quigley, 1985). Sanders (1988) cites studies which indicate that 9-year-old hearing impaired children in the mainstream function academically 1.5 years behind their hearing peers; at the age of 14, this gap widens to more than five years.

While the statistics noted above appear to present a pessimistic picture, there is a positive note. Allen (1986), in a comparison of academic achievement patterns among hearing impaired students in 1974 and 1983, observes an overall improvement in SAT Reading Comprehension subtest scores over a ten-year period (Figure 2.1). However, as noted above, there is still the same disturbing tendency to "level off" beyond age 13; the 1974 and 1983 test scores for 18-year old students are only a few points apart. Even more disturbing is the decline of overall performance beyond age 17 in the 1983 sample. In addition, the gap between the hearing and hearing impaired groups widens with increasing age. This gap occurs at the secondary level which is a crucial stage in the deaf student's

Figure 2.1

Mean reading comprehension scaled scores for 1974 and 1983 hearing impaired norming samples, by age (plotted with median performance of hearing students). From Allen, 1986, p. 164.

(Figure unavailable due to inability to obtain permission for reproduction; refer to original material) education. The result is that hearing impaired students generally experience difficulties in meeting post-secondary entrance and/or exit requirements. This result is illustrated by the annual figure of 5,000 American deaf students graduating from high school with an average of grade 3 reading level as reported by the then president of Gallaudet University, Jerry Lee (United States Senate, 1985).

This problem is not only a North American phenomenon. Studies in Britain and New Zealand indicate similar problems. Kyle and Pullen (1988), in an interview of young deaf adults in England and Wales, seven years after leaving school, observe that, at age 23, their reading had not improved since leaving school. They conclude that nearly 50% of profoundly deaf people are unable to read at a simple functional level and that nearly 50% leave school with no qualifications, as compared to only 18% of the hearing population. A New Zealand study (Vandenberg, 1971) compares oral deaf children in New Zealand with deaf children in the United States. The similarities are shown between the two populations, especially the demonstrated severity of retardation in reading and writing increasing with age, and this disparity becomes increasingly more pronounced at older age levels. This study also demonstrates that such problems are not limited to a communication methodology.

Conrad (1979) cautions that some of the tests or measures utilized in some of the above studies may have questionable validity as applied to a hearing impaired population in the sense that some ignore hearing loss as a relevant variable. He also notes weaknesses that could occur when test results are obtained from many different testers who vary in their style of administration of tests.

Nevertheless, Conrad does not dispute the overall conclusion of such investigations that deaf students lag significantly behind their hearing peers in reading and writing achievement. Test findings accumulated from over thirty years have been far too consistent to indicate otherwise.

LeBuffe (1979) draws an apt analogy between this state of affairs and the well-known Greek mythological figure, Sisyphus, doomed to eternally push a boulder up to the top of a hill, only to see it constantly rolling back down to the bottom.

Summary

Various studies over thirty years overwhelmingly show that deaf students fall far short of their hearing peers in literacy skills and that there has been little improvement during that time. As a result, most of them are unable to access post-secondary education and training. It has been shown that illiteracy in deaf persons may be a universal phenomenon and reaches across the communication spectrum.

III: REASONS FOR THE PRESENT STATE OF AFFAIRS

> **How else can we explain the lack of discussion of the most important fact of deaf education today--its failure in educating deaf children, the very reason for its existence. Neither the professional meetings nor the professional journals are centrally concerned with diagnosing the reasons for the failure, proposing remedial steps, or evaluating progress.** (Lane, 1986, p. 3)

This chapter explores the reasons for the poor literacy skills in deaf children and adults. A wide variety of reasons have been advanced, but, from a preliminary overview of the literature, they may be broken down into two general areas: the "deficit model" and the socio-cultural model. Erting (1987) terms these areas in a different way: "educator view of deafness" and "Deaf parent view of deafness" (pp. 140-141). The former is centred around the belief that illiteracy in deaf persons is the outcome of deafness itself, while the latter directly attributes it to the "hearing" response to deafness. In other words, the deficit model is largely rooted in the idea that deafness is a pathological state in need of "treatment", the deaf are largely handicapped by their defective hearing and language functions, and illiteracy in the deaf is a very difficult obstacle to overcome (Conrad, 1979; Kretschmer & Kretschmer, 1978; Quigley, 1980). Webster (1986), noting the orientation to the deficit model of current research into the literacy skills of the hearing-impaired, cites Conrad's 1979 book, *The Deaf School Child*, as a classic example of a deficit study. The socio-cultural model is based on the belief that cultural and socio-linguistic factors play a large role in the success and failure of literacy approaches for the deaf, illiteracy is an outcome of ignorance or oppression, and illiteracy is a surmountable problem (Carver, 1987; Doe, 1988; Erting, 1987; Kyle & Pullen, 1988; Lane, 1984, 1986).

Lane (1986) argues that solutions have been available to educators for a long time but were ignored. In a harsh denunciation of the illiteracy situation of the deaf, he makes the strong allegation that it is an acceptable situation to the educational establishment: "Successful education [of deaf children] is not entirely in the interests of the educators" (p. 3). Kyle and Pullen (1988) candidly observe:

> Society in this sense creates the definition of the "handicap" as its maintenance and continued discovery is in the hands of other members of society whose livelihood depends on it. This is one of the most difficult statements to deal with personally. Where would I (the first, hearing author of this paper) be without deaf people? (p. 54)

A brief historical review of education of the deaf offers some examples. In 16th century Spain, Pedro Ponce de Leon, acknowledged as the first successful teacher of the deaf, utilized a highly visual teaching approach, based largely on fingerspelling and writing. His methods were later copied and utilized by Juan Pablo Bonet and Ramirez de Carrion with similar success on other deaf students, resulting in good oral and written Spanish language skills (Bender, 1970; Lane, 1984). Another example is the role of deaf teachers in education of the deaf. Lane (1984) notes an overall decline in the educational achievement of deaf students in the century since the time when the ranks of deaf teachers and administrators began to shrink in deaf educational programs as a consequence of the rise in oralism.

In a more specific reference to the reading ability of deaf persons, an observation made in 1893 by C.G. Davidson of the Pennsylvania Institute of the Deaf and Dumb is revealing. He believed that better-educated deaf people acquired their knowledge as a result of having been good readers: "Only through the constant reading of books could deaf people acquire a true mastery of the English language" (Brill, 1984, p. 43). He identifies four key concepts: 1) recognition by teachers of the importance of the habit; 2) the systematic teaching of reading; 3) teachers who are capable of arousing in their pupils a desire to read; and 4) a properly selected library. Davidson also recommends reading to start as soon as children enter school and for it to be learned through a variety of visual vehicles such as games, dramatizations, story telling in signs, and pictures in order to stimulate the imagination. Unfortunately, the ideas of Davidson and others were lost in the changing trends in the education of the deaf.

Job Williams, the principal of Hartford's American Asylum for the Education of the Deaf and Dumb (now American School for the Deaf), charged at the 1893 International Congress on Education of the Deaf in Chicago that, in some states, schools for the deaf became objects of political patronage as a part of the "party spoils system." The result was that "men of rare skill derived from long experience were removed to make way for men entirely ignorant of the deaf and the methods employed in their education" (Williams, cited in Brill, 1984, p. 37). Whether these skilled individuals were deaf or hearing is not the point as it entailed the removal of competent personnel in favor of those not equipped to work with deaf children.

However, it should be noted nearly half of the teachers were deaf and many schools for the deaf in the United States were administered by deaf persons at that time, and their ranks were reduced until they were a fraction of their former numbers after the turn of the century (Lane, 1984). While this has been chiefly attributed to Alexander Graham Bell's oralist crusade against deaf teachers and sign language in schools, political patronage may have also contributed to this decline.

James Denison, one of the American delegates to the 1880 International Congress on the Education of the Deaf in Milan, known for its resolutions endorsing the pure oral method for all deaf children, noted that at least 75% of the participants were Roman Catholic priests and nuns from the local regions and that their use of manual communication was "exceedingly poor." After a tour of local schools for the deaf, he observed these teachers were very inferior in "scientific sign making" (Brill, 1984). It appears to have come down to a choice between the strengths (auditory/speech skills) and weaknesses (visual/manual skills) of hearing persons or the strengths (visual/manual skills) and weaknesses (auditory/speech skills) of deaf students. The needs of hearing persons prevailed. In the light of the above examples, there may be some validity to Lane's claim that solutions have been available to educators but were ignored.

The fact remains that there exist a good number of profoundly and prelingually deaf persons from across the communication spectrum who demonstrate a high degree of competence in literacy skills. In noting the dearth of research into why deaf persons succeed in mastering such skills, Carver (1985) observes:

> The very fact that there has been a sizeable number of pre-lingually deaf students who successfully mastered the written language shows that this is, indeed, not an impossibility. There has to be a certain combination of factors which lead to this mastery. The trick, then, is to identify these factors and find the right sequence and combination of these factors (p. 2).

This observation is corroborated by Quigley (1980) who notes the fact that some profoundly and prelingually deaf persons do read and write well. He also comments on the lack of research in this respect. He expresses the belief that the deaf can read and write well and that "the present sad state of affairs in their reading achievement is due to our lack of the knowledge and skill on how to develop and teach reading to them" (p. 25).

As implied above, the orientation of literature and research has been towards the deficits in the functioning of deaf persons in this area; there appears to be a definite lack of focus on the assets that predict academic success. The deficit model is noted by Webster (1986): Teachers "tend to assume that the learning difficulties experienced by the child, lie *within* the child" (italics author's) (p. 4). He notes that this deficit model "encourages teachers to exacerbate a child's handicap by attributing every problem which arises to the child's disability" (p. 4). He suggests that it may be more effective to modify the learning situation than the child. Kyle and Pullen (1988) are more specific:

> This model has the assumption that *differences in physical, sensory or mental capabilities necessarily*

> *produce a defective member of society.* Such a situation then requires remediation or treatment. Indeed, *not to treat,* given the knowledge of difference offends against an implied "hippocratic oath" shared by all members of our enlightened society. A diagnosis of deafness then requires action which firstly looks for cure and then indicates a long term remediation, further rehabilitation and eventually care. It is difficult within society to contemplate not taking action when someone is discovered not to hear, but deaf people are beginning to report to us their unease with this type of response to diagnosis and with their subsequent educational treatment [italics authors'] (p. 50).

There is a trace of irony in the above observation. Deaf people had actually been trying to report this "unease" for over a hundred years, but their pleas went unheeded.[1] The National Association of the Deaf (NAD) was established in 1880 partly out of Deaf Americans' concern about the spread of oralism to U.S. school programs for deaf children (Gannon, 1981).

Gormley and Franzen (1978) cite four models formulated by Weiner and Cromer (1967) to explain reading failure in children: defect (organic problem), deficit (deficiency in one or more requisite skills), disruption (atypical function interfering with learning), and difference (mismatch between the child's patterns of response and the pattern of response required for reading). In their view, the deficit model centres around the belief that the deaf child could be taught to read once he learned to speak, whereas the difference model focuses on language competence as a basis of learning to read. In their view, this does not mean oral language competence, but that of sign language. In their view, the difference model of reading failure in deaf children "points out the mismatch between the traditional method of instruction (oral English) and the child's native language (sign)" (p. 543). They reject the deficit model, as well as those of defect and disruption, as a viable explanation of reading failure in deaf children: "The sensory handicap of deafness is *not* an adequate explanation for reading failure" (italics authors') (p. 543). While Gormley and Franzen's discussion may be logical, they ignore the fact that less than 10% of deaf children are native users of sign language and that non-oral educational approaches have been similarly unsuccessful. Nevertheless, they are essentially correct in that deafness alone does not account for the reading failure in deaf children.

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[1] See Harlan Lane's (1984, ch. 10) account of the concerns of American deaf adults and educators of the deaf about the introduction of the oral method from as early as the 1840's.

In further reference to the deficit orientation of research in the field of deafness, questions have been raised about its validity. It has been said, conversationally, that about 75% of all such research, especially in psycho-social and educational aspects, was invalid due to the researchers' lack of sensitivity to socio-cultural and linguistic variables. The famed anthropologist, Margaret Mead, emphasizes that, in order to be able to work with a certain group of people and to speak with authority on this group, one must understand and live their culture and speak their language. Lieben (1975) agrees during a discussion of research ethics in the area of deafness:

> Many psychologists have been attracted to research with deaf people because they conceive of them as a population which will enable them to evaluate such issues as the relation between language and thought, the role of audition per se in self-regulation and so on. Such

> researchers frequently run their experiment, draw conclusions, and disappear forever. . . . It is difficult to imagine that a well-trained psychologist would consider studying child development in Spain, for example, without first learning Spanish and something about the Spanish culture. And yet the equivalent happens repeatedly in studies of deaf populations. When researchers are not familiar with deaf people and lack appropriate communication skills, they are usually unaware of important control variables, and are probably unable to convey the requirements of the task. . . These warnings are not to suggest that research on deaf populations should be avoided, but only that the researcher must first meet his obligation to acquire sufficient background information, and also, that in the quest for finding answers to theoretically interesting questions, *he should not ignore the very real, immediate, applied concerns of deaf people themselves and of the professionals who serve them.* (italics mine - pp. 2-3).

Parallel to Lieben's view is that of Stokoe and Battison (1981) who have a label for it: **ethnocentrism**. They observe that most hearing professionals and parents, being so accustomed to auditory input/output, are unable to comprehend the concept that language could be acquired and expressed differently such as through the visual channel and bodily movements. Lieben and Stokoe & Battison have essentially described what may be fundamentally wrong with much of research and educational approaches in the field of deafness.

Despite their nominal focus on education, the International Congresses on Education of the Deaf since the 1870's emphasized the deficiency in hearing and speech functions (Brill, 1984; Lane, 1986). Lane makes note of the most recent Congress which was held in 1985 in Manchester, England: its theme "was not the failure of deaf education but the promise of cochlear implants, as if the profession believed that the only hope for deaf education was to provide it miraculously with hearing children" (p. 3). Abberley (1987) notes that its agenda was set by members of the medical profession who "clearly expressed their own rejection of the disabled state" (p. 9). Mottez (1975, cited in Lane, 1984) notes that the 1880 International Congress on Education of the Deaf in Milan shifted the status of speech from "a means of education to the end of education itself" (p. 398). Lane (1986) was more direct: "Schools were transformed into speech clinics" (p. 3). In a similar vein, Damerell (1985) describes with irony a 1974 deaf educational conference in Nebraska titled, "A Decade of Progess": "A self-congratulatory meeting of hardware specialists with little concern for their failure to help prelingually deaf children to learn to read, their greatest difficulty and the one which few ever triumphed" (p. 55). Of particular interest and an appropriate conclusion to this discussion is the declaration by Dr. Prosper Ménière, a French physician associated with the school for the deaf in Paris in the 19th century:

> The deaf believe that they are our equals in all respects. We should be generous and not destroy that illusion. But whatever they believe, deafness is an infirmity and we should repair it whether the person who has it is disturbed by it or not (Lane, 1984, p. 134).

This raises the question as to whether the priorities of professionals and educators in the field of deafness are aligned with those of parents and deaf persons. It appears that they are not. It has been shown above that a main priority of the profession has been to "normalize" the deaf by emphasizing communication skills, especially speech/auditory skills, whereas the deaf prefer to focus on their reading and writing and other academic skills[2]. The priorities of parents for their deaf children may more closely resemble those of the deaf than of the profession. For example, during a survey of pre-school age deaf children in Alberta (Rodda & Carver, 1983), 66% of the sample's parents chose college or university education as the most important goal for their deaf children. In contrast, only 3% chose "good" hearing/speech skills. Implicit in this is that such academic preparation should be the focus of education of the deaf. Rodda and Carver comment:

> There are implications for both parents and professionals . . . perhaps professionals need to be aware parents do not share, and indeed, may not wish to ascribe to the same objectives as speech pathologists, audiologists and some teachers (p. 36).

Even then, "normalization" of and development of good hearing skills in deaf students, despite the high priority nominally assigned to them, may have actually been the subject of "lip service" paid by professionals and educators. The fact that there have been too many failures in this field is self-evident. Doe (1988) raises a new perspective from her social analysis of the education and the status of the deaf in Ontario. She suggests deaf students were exploited by the "capitalist system" by being trained at the Ontario School for the Deaf (OSD) and "prepared for a lifetime of exploitation as workers in the marginal labour force" (p. 98). Implicit in Doe's thesis is that the suppression of sign language and emphasis on oral skills, despite evidence available at that time that most deaf students are unable to master such skills, created a group of compliant workers who would accept their marginalized state in the form of a pool of cheap labour from which the society could draw. Such a situation could be termed by Freire (1971) as prescription: "Every prescription represents the imposition of one man's choice upon another, transforming the consciousness of the man prescribed to into one that conforms with the prescriber's consciousness" (p. 31). He believes oppressors utilize it to maintain control over students by minimizing their creative power and increasing their credulity. He points out that "humanitarianism" is a tool commonly used by oppressors to preserve a profitable situation (p. 60).

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[2] In the Alberta Survey of the Hearing Impaired (Rodda & Carver, 1983), deaf adults were asked to state their preferences for continuing education. Only 2.5% indicated a desire to upgrade their communication skills such as speech, while 21% opted for English and academic upgrading.

The last word on this specific subject is reserved for two Deaf persons. The first is by W. T. Griffing, an observer at the 1958 International Congress in Manchester (Brill, 1984):

> The Congress was not educational in the sense that it was of benefit to classroom teachers. We were introduced to a scientific world. We were told that deafness is on the way out. . . If the teachers were the forgotten people of the Congress, then the deaf were the forsaken (p. 160).

The other is by David Peikoff, a Canadian deaf leader (cited in Doe, 1988):

> Are we to be a forgotten and neglected group, forever a prey to exploiters and theorists who play with us as scientists toy with guinea pigs and who, after ruining us educationally, masquerade as our benefactors who rather than strengthening us during our school days to stand on our own feet and do life's battles unaided, encourage us to be dependent on society? (p. 87).

Summary

The "deficit model" orientation of approaches to deafness may have contributed largely to the illiteracy situation of the deaf. That is, the approaches centre around the remediation of the impairment of the hearing and speech functions at the expense of practical education. Historic, though fallacious, beliefs about deafness and deaf persons served to shape society's perception of deafness, giving rise to the deficit model orientation. It has been shown that older methods of educating the deaf and the ideas of Deaf persons themselves may have worked but were either dropped or ignored in favor of the oral/auditory approaches. The field of deafness, especially in research and education, has been weighed heavily in favor of the "hearing" viewpoint for more than a century. That is, there have been those who lack the sensitivity to the socio-cultural and linguistic variables of deafness as well as an intimate understanding of the language and culture of the Deaf people. Questions have been raised about the priorities of professionals in the field of deafness and whether they are in line with those of deaf persons and their parents. Lane's contention that the profession has a vested interest in maintaining the status quo, while unproven, may not be far from the truth.

IV: EXAMINATION OF FACTORS INFLUENCING LITERACY

> **It is essential to see that illiteracy is not in itself the original obstacle. It is the result of an earlier hindrance and later becomes an obstacle.** (Freire, 1985, p. 13)

Although the illiteracy of the deaf has been basically attributed to insufficient exposure to speech (Moores, 1987; Sanders, 1988), it is the combination of certain factors in the deaf child's development which may determine his literary success or failure. In a self-analysis, Carver (1985) explores the factors in his development that may have contributed to his mastery of the written word. He attributes the following factors as crucial to his literary success:

- Exposure to bilingualism
- Presence of a deaf sibling
- Swift and successful parental adjustment to deafness in the child
- Sense of self-sufficiency fostered by his parents
- Excellent mother-child interaction
- Immersion in a highly literate environment at home
- A sense of "Deaf ethnicity"
- Concurrent development of oral skills
- Study of Latin and German
- Heavy reliance on reading and writing as an interactive communication tool during educational development.

Ewoldt (1987), after conducting a series of studies of preschool deaf children's literary development, identifies as factors influencing such development: motor coordination, language, cognition, affect, literacy environment, literary concepts, and reading/writing behaviours, in addition to sociocultural situations and their context. Papenbrock (1988), in addition to the above, identifies as factors parent-child interaction and social milieu: age at diagnosis, language models, intervention, hearing aid use, school status, and method of communication. Using these ideas as a starting point, this chapter focuses on the specific factors cited in the literature as having significant effects on literacy development in the deaf person. Specifically, it explores etiology, linguistic and cognitive development, socio-cultural influences, and pedagogical approaches. Nevertheless, as Gregory (1987) emphasizes, there are no universals in terms of the writing deficits of deaf students, and such deficits and solutions are highly individualized. What may work for some may not necessarily work for others.

Etiological Factors

This section discusses etiologicial factors such as degree of hearing loss, intelligence and the age of diagnosis which are identified in the literature as predictors of the deaf child's future literacy skills (Conrad, 1979; Ewoldt, 1987; Kelly, 1987; Levine, 1981; Moores, et al. 1987). Van Uden (1983, cited in Rodda & Grove, 1987) believes, as does Conrad (1979), there is a connection between problems in language development and disturbances in neurological processing systems that are the result of auditory disorders. Research has established degree of hearing loss as a predictor of literacy skills in deaf persons: the more severe the hearing loss, the less likely the deaf child will develop good literary skills (Allen, 1986; Kelly 1987; Moores, et al, 1987; Quigley, 1980; Sanders, 1988, Trybus, 1979). Figure 4.1 illustrates this disparity.

The degree of hearing loss itself as a causative factor is debatable. The deaf child's linguistic environment has been identified

Figure 4.1

Reading Comprehension:
20th to 80th percentile ranges for hearing impaired
8, 12, and 16 year-olds with different degrees
of hearing loss (Allen, 1986, p. 202)

(Figure unavailable due to inability to obtain permission
for reproduction; refer to original material)

as a more important factor than deafness per se (Carver, 1984; Hoemann et al. 1976). As noted in the previous chapter, Gormley and Franzen (1978) reject deafness as an adequate explanation for the reading failure in deaf children on the grounds that there are deaf children who do attain reading proficiency. Age at onset and age at diagnosis are mentioned. Conrad (1979) notes that chances of language impairment are greater if deafness occurs before the age of three. Papenbrock (1988), in a study of deaf students in Winnipeg, notes students whose deafness was diagnosed before the age of two obtained significantly higher reading comprehension scores than those who were diagnosed after the age of two. Such findings imply the need to diagnose deafness and to expose the deaf child to a usable language as soon as possible in order to enhance literary and academic success.

Linguistic and Cognitive Factors

Piaget's (1952; Inhelder & Piaget, 1958) pioneering studies of child development have been cited extensively in literature on deafness (e.g.: Arnold, 1985a; Furth, 1966, 1973; Lieben, 1975; Rodda & Grove, 1987; Wood, Wood, Howarth & Griffiths, 1986), as they shed a new light on how cognition and language develop in the deaf child. In essence, Piaget theorizes that the child's knowledge develops independently of language as a spontaneous, biological function, a view supported by Furth (1966) in the case of deaf children. That is, actions, or *schema*, not language, are assumed to provide the foundations for logical thought. Piaget also believed that the child is an active rather than a passive employer of his environment to develop his various abilities and that the child builds up on the basis of his previous experiences, or schema. Furth (1969) explains:

> Knowledge is in Piaget's theory never a state, whether subjective, representative, or objective. It is an activity. It can be viewed as a structuring of the environment according to underlying subjective structures or as a structuring of the subject in living interaction with the environment (p. 20).

Lenneberg (1972) expands on this Piagetian concept of structuring from the environment: "Building blocks for language are provided by the social environment; the child breaks them down into principles and from these resynthesizes its own language. Thus the child is not a passive recipient of language" (p. 37).

By definition, the deaf child lacks the auditory schema upon which to build his skills in the language of his society. As Tomlinson-Keasey and Kelly (1974) point out, some modalities may be lost for the deaf (e.g., an inability to coordinate vocalization and sensory input with any other sense), providing incomplete data about the world. Consequently, the deaf child relies on the remaining senses that he is able to coordinate in order to incorporate feedback on his interaction with the world. Tomlinson-Keasey and Kelly conclude that the deaf child develops cognitive structures that do not depend on auditory input. Lenneberg (1972) draws an apt analogy:

> Sensory modalities are avenues over which the building supplies enter, raw materials that are needed during growth to build up cognitive functions. If one avenue is obstructed, little harm will be done so long as the building supplies (specific sensory input) can be transformed (e.g. from visual to tactile) without losing their vital or specific importance in the process (p. 37).

Piaget's theories have been criticized on account of his background in zoology rather than in psychology and that they lacked a strong foundation in language theory (Arnold, 1985a). Nevertheless, as Arnold notes, Piaget made an important contribution to the understanding of the cognitive development process in the deaf child.

Vygotsky (1963) disagrees with the Piagetian concept that the child's thinking process develops independently of the process of learning. He believes that a child's learning and development are intertwined from birth and that they are more of a socio-cultural function rather than a biological one. In other words, people become the way they are through interaction with others. Nevertheless, Vygotsky (1986) agrees with Piaget in that actions are the genesis of thought and language:

> The relation between thought and word is a living process; thought is born through words. A word devoid of thought is a dead thing, and a thought unembodied in words remains a shadow. The connection between them, however, is not a preformed and constant one. It emerges in the course of development, and itself evolves. To the Biblical "In the beginning was the Word, " Goethe makes Faust reply, "in the beginning was the deed." The intent here is to detract from the value of the word, but we can accept this version if we emphasize it differently: In the beginning was the deed. The word was not the beginning - action was there first; it is the end of development, crowning the deed (p. 255).

That "a word devoid of thought is a dead thing" may be crucial to an understanding of where the deaf child stands in respect to his language and thinking skills. The traditional approaches to language development in deaf children tend to emphasize structure and imitation (e.g. van Uden, 1977; Watson, 1967) at the expense of function (Brennan, 1975; Gormley & Franzen, 1978). In addition, Vygotsky (cited in Thomas, 1979) theorizes that, if the language climate of the child is dominated by a simplistic or primitive language, then the child would think accordingly. On the other hand, in a more complex linguistic environment, then the child would be able to think in varied and complex ways, given that their initial biological equipment is unimpaired. In my opinion, Vygotsky's theory could be extended to the concept of the impairment being in the child's environment rather than only in his physical deficit. If the deaf child's social environment fails to provide him with the tools that he is able to utilize in order to develop his language and thinking skills, then it is impaired. In this vein, Abberley (1987) would concur: Impairment is a social product. It is useful to refer back to Lenneberg's building material analogy: When the environment provides "inferior materials" to the deaf child, his language development suffers accordingly. Such an environment is aptly described by Crandall (1978) as "linguistically bankrupt" in reference to pre-school deaf children of non-signing hearing parents.

Wood (1988) analyzes Piaget's and Vygotsky's theories and compares them with those of Bruner's. Wood notes that Piaget's theories focus on the structure of mature thinking while those of Bruner emphasize the processes. Bruner believes that these processes vary from individual to individual, placing importance on action and problem-solving in learning. Wood notes that Vygotsky puts language and communication at the core of intellectual and personal development and that his primary concern lay in the understanding of the natural evolution and transmission of human culture as opposed to Piaget's biological standpoint. Thus, Vygotsky's goal was to integrate psychology with an analysis of socio-cultural factors such as history, art, literature, and sociology. In this light, children's learning is natural and spontaneous, based on social practices within which communication takes place. This is the heart of Bruner's theory which essentially states that language learning should be the outcome of non-intentional and informal teaching situations. His theory is discussed in more detail in a following section.

From the above analysis, Wood suggests that asking a five- or six-year old child to "pay attention, concentrate, study, learn or remember is unlikely to bear fruit"(p. 61). He discusses learning in "non-schooled, non-literate societies" (p. 63) in which children learn naturally or "incidentally" by observing, imitating or being helped to perform essential tasks by the more knowledgeable and mature. He notes that they do not sit down to be shown and told about things outside their common cultural experience: "Sitting, attending, listening carefully, or diligently watching a performance by an adult in relation to a task that the adult has set, leads to demands on concentration, memory, and thinking that are not a feature of incidental learning" (p. 63). He further elaborates:

> When we ask a young child to "pay attention" we should recognize that any failure to comply might not result from boredom, wilfulness, or "distractibility" but from the

> fact that he lacks the necessary knowledge and skill to bring to bear on the task or topic at hand (p. 70).

Wood concludes that, when children are asked to learn in such a fashion tasks set out by adults which provide little by way of concrete, perceptual support, they may find it impossible to comply with the adults' demands. This may be an important point to consider when it comes to having young deaf children learn English language skills. When they have insufficient perceptual support (i.e. the use of a defective auditory channel), it may be unrealistic to "teach" them such skills, even more so when they are being asked to sit down and learn in an intentional fashion.

Wood's point about "teaching" deaf children language skills raises the question of whether language is "taught" or "caught." There are two schools of thought in the area of language acqusition. The first is that language must be taught in order for children to master such skills while the other subscribes to the view that children are natural learners of language through simple exposure to it. The latter view is advocated by Montessori (1967) and Chomsky (1965). Montessori, in observing the astounding capacity of children in acquiring language during their first few years of life in a seemingly effortless manner, likens the child's mind to a photographic plate. She also notes that, unlike the young child, the adult must deliberately and consciously apply himself to the learning of a second language which in itself can be a struggle. Chomsky affixes a label to this phenomenon: Language Acquisition Device (LAD). He suggests that it is much easier for a child to acquire two or more languages during the critical early years than it is for an older person. This concept has implications for the deaf child. The longer the delay in exposing the deaf child to linguistic input, visible or otherwise, the harder it becomes for him to master English language skills. In this light, Wood's point about insufficient perceptual support takes on a significance during this crucial stage when LAD is at its peak, giving rise to the question: Might it not be better to make the most of the child's visual abilities upon which he can build his language during these years?

There is some disagreement in how the deaf child should acquire language. Some educators and researchers advocate a structurally-based and imitative approach to language acquisition (Van Uden, 1977; Watson, 1967) while others advocate a largely semantic, functional approach (Brennan, 1975; Ewoldt, 1977; Gormley & Franzen, 1978). Clark and Sewell (1979), in a critique of Gormley & Franzen's observations, argue for the middle ground: a balance between the semantic and syntactic approaches. This debate leads to the concept of **pragmatics**. Pragmatics, identified as one of the four aspects of language along with semantics, phonology and syntax, are described as the "behavioral effects" of communication (Watzlawick, Beavin, & Jackson, 1967). They explain:

> The two terms communication and behavior are used virtually synonymously. For the data of pragmatics are not only words, their configurations, and meanings, which are data of syntactics and semantics, but their nonverbal concomitants and body language as well. Even more, we would add to personal behavioral actions the communicational clues inherent in the *context* in which communication occurs. Thus, from this perspective of pragmatics, all behavior, not only speech, is

> communication, and all communication -- even the communicational clues in an impersonal context -- affects behavior. . . . Thus we would prefer to focus less on the sender-sign or receiver-sign relations and more on the *sender-receiver relation, as mediated by communication* (italics authors', p. 22).

Implicit in pragmatics is communication competence, while syntax and semantics provide a foundation in linguistic competence. Hörmann (1986), in noting the former orientation of linguistics to phonology, semantics and syntax, cites pragmatics as the key concept towards an understanding of the psychology of language: "Now the speaker/listener in the act of using language is the point of interest most linguistic considerations have only a value as a stimulus for genuinely psychological approaches" (p. 77).

Kretschmer and Kretschmer (1978) outline and describe five major concepts of pragmatics: speech acts, sentence utilization, presupposition, informational organization, and conversational constraints. The premise for speech acts is communicative intent. According to Clark & Clark (1977, cited in Kretschmer & Kretschmer), the most common speech acts in English are the declarative (tell), interrogative (ask), request (order), expressive (feel), and commissive (promise). Kretschmer and Kretschmer state that without mastery or understanding of this concept, communication would be seriously disrupted. They also believe that the child "must master this aspect of communication competence in order to understand how to communicate with others or how to interpret the utterances directed toward him by others" (p. 12). Sentence utilization applies to a situation when a person utters a sentence in order to have an intended effect on the listener. In other words, each sentence contains a speech act and it simultaneously indicates to the listener its intention. The authors state: "To be an effective communication partner, each person must be able to understand both of these conditions. Otherwise conversations fail or individuals must resort to forms that may not be totally acceptable to others, such as direct orders" (p.13).

Presuppositions are the psychological, semantic and/or pragmatic assumptions that a speaker makes about the listener and the communication situation. Kretschmer and Kretschmer note that such presuppostions are made by the speaker "relative to the capabilities of the listener, the nature and conduct of the communication act itself, and the clarity of the message to be conveyed" (p. 17). The fourth concept, informational organization, is the implicit understanding that each sentence begins with known information and ends with new information, enabling listeners "to focus quickly on the important information component within the sentence, so that the new or informative content can be compared with previous information and integrated into already stored information" (p. 17). The authors note that without it, information processing would be very difficult and its unpredictable presentation "would force a listener to attend to all aspects of a dialogue in order to understand, which would certainly be tiring" (p. 19). Finally, conversation constraints are the rules that govern the social conventions of conversation such as turn-taking ("Excuse me for interrupting"), openings ("Hello, I'm Roger. I understand you are interested in pragmatics"), changes in topics ("I just remembered something"), and endings ("Any questions? If not, then I'll see you next week"). Kretschmer and Kretschmer consider it important for both hearing and hearing impaired children to learn these constraints as "without them, they cannot easily enter into dialogue with others, and more importantly, others cannot easily establish meaningful conversations with them" (p. 20).

Wood, Wood, Griffiths and Howarth's (1986) book, *Teaching and Talking with Deaf Children*, advocates the use of pragmatics in the development of language in deaf children. Its authors assign a prominent role to conversation between the deaf child and his teacher; they differentiate it from teaching and debate. They note:

> Participation in conversation demands knowledge, not only in the construction of intelligible, coherent and linguistically acceptable utterances but also of interpersonal and social skills. Interpersonal understanding is needed to appreciate how one's ideas must be organized and disciplined in such a way that they can be understood. Some things have to be explained before others can be grasped, and so on. It is also necessary for a speaker to monitor his listener's non-verbal and verbal responses for signs of comprehension or misunderstanding, interest and boredom. Thus participation in conversation provides one route towards an understanding of other people and how they think (p. 49).

They imply that, in order to have a conversation with deaf children, the listener not only must have the capacity to listen and interpret but also be very visually sensitive. Without pragmatic support, it is difficult for the deaf child to master English language skills; at the root of language mastery is communication competency. This may explain in part the reason why deaf children of deaf parents attain higher levels of academic achievement than deaf children of hearing parents (see discussion later in the chapter). They enjoyed considerably more pragmatic support during their early years.

There is some debate over whether the deaf child can bypass a phonemic system and still master literacy skills on the basis of a cheremic (sign language) or graphemic system (print English). Van Uden (1986) disagrees with the idea that deaf children can master literacy skills on the basis of sign language. However, evidence exists in which deaf children with deaf parents whose first language is American Sign Language attain a level of literacy competency superior to deaf children of hearing parents (Bonvillian, Nelson, & Charrow, 1976; Norden, 1981; Schlesinger & Meadow, 1972; Stuckless & Birch, 1966).

Evidence exists wherein deaf children successfully master literacy skills utilizing print English as the first language (Carver, 1985; Chorost, 1987; Debes & Williams, 1978; Lane, 1984). Moores (1987) expresses the doubt that deaf children are capable of mastering literacy skills without first mastering the phonemic system. Nevertheless, Smith (1988) argues that any child will learn to read and write effectively only if they are admitted into a "community of written language users" (p. 2). Smith's approaches to acquiring literacy skills will be discussed in a later chapter.

The concept of print as a first language has received little serious attention or research. Nevertheless, it has been reported by at least two deaf persons that print was, indeed, their first language and that it led to superior literary skills on their part (Carver, 1985; Chorost, 1987). Chorost (p. 193) describes his perceptions from his early days prior to acquiring a language:

> Without language the world makes little sense . . . Nonlanguage is chaos, a film without sound or script, only scenes and motion. People appear and disappear, or sit still for hours watching smaller people in boxes; cars swoop one way to white rooms; the moon follows one around; the white house at the corner is obscurely but deeply frightening. My mind was all "?" and "!" and "?!" --- the last mostly reserved for doctors.
>
> Consequently, I was what I call "meaning starved." Perhaps the brain needs language in order to operate, just as lungs need air in order to behave like lungs.

Chorost credits his literary ability to his father, who was a psychologist and who, against prevailing opinion, decided to teach him how to read before his learning to speak or using hearing aids. Using a flash card format with pictures, his father taught him to recognize whole words without teaching him individual letters of the alphabet. The gestalt approach obviously worked:"' '?' started to yield to, 'where does the sun go at night?'" (p. 195). His father anticipated Frank Smith's approach by at least two decades. Smith (1988) advocates the identical gestalt concept of learning by advising against paying attention to individual letters in words or individual words in sentences or phrases. Chorost comments (p. 195.): "Speech needn't be the necessary forerunner of reading. I see no reason why deaf children couldn't become fluent readers long before they master aural comprehension and speech."

Truax (1978) adds an important dimension. She believes that the child's experiences with printed material from an early age enhances his awareness of the value of printed language. She states: "Awareness is developed through experiences with print as it is used in the general environment - on cereal boxes, on television, on road signs, and in books and magazines" (p. 280). There is ample anecdotal evidence as reported by many deaf persons to the effect that their reading and writing skills have been enhanced by the pencil-and-paper method in communicating with hearing persons. Several have also reported that it was the only way that they communicated with their parents from their childhood, giving it credit for their attainment of literary competence. Such an approach fits in with Truax's concept of value of printed language; these deaf individuals recognized its value and utilized it for their everyday communication requirements. It is an aspect that has been largely overlooked (or ignored) in research and that should be investigated in depth.

The visual mode has certain advantages over the auditory mode. Mason and Carver (1986) compare linguistic information processing capabilities of the auditory mode with those of the visual mode. They note that the visual mode is capable of both spatial and temporal coding, whereas the hearing function is limited to temporal coding. Nevertheless, they point out the shortcomings of the visual mode in that it reacts much slower to sudden changes in stimulation levels (e.g. light intensity) and is more susceptible to fatigue. The auditory channel is nearly indefatigable and completely accessible to the environment at all times: "It is not suprising that the auditory channel became the preferred channel for information and linguistic processing" (p. 5). Nevertheless, the fact remains that the typical deaf child has a defective or unworkable auditory mode, while, for the most part, possessing a perfectly workable visual mode that could, and ought to, be exploited to the fullest for optimal linguistic development. Debes and Williams (1978) developed a continuum of visual-verbal development to illustrate the richness of visual experience in a developing child as compared with verbal (speech) experience (Fig. 4.2), noting that many visual items occur before those of verbal. Holdaway (1986, pp. 91-93) describes the "bonuses" of print language or visual experience as opposed to oral language or auditory experience:

- It is usually permanent.
- It is perceptually available, stable, and accessible at any time.
- It gives the child a feeling of "comforting concreteness" (associated with books).
- It is "more open to the interactive and manipulative style of early developmental learning."

He argues: "Print overcomes the major limitations of auditory language by making it perceptually 'available' and therefore capable of fulfilling distinctively visual strategies, such as those of verification, formal analysis, correction, the display of structure and its reorganization, dissemination, and what I will call the 'work of perfecting' at both the level of form and detail" (p. 91.). Rodda and Grove (1987), in a major review of literature on language and cognitive development in deaf children, are "obliged to conclude that reading is the optimal receptive medium, certainly for the purposes of instruction, and arguable for interaction between the deaf child of average oral skills and the hearing community" (p. 221).

Figure 4.2

Continuum of Visual-Verbal Development
(Debes & Williams, 1978, p. 115)

(Figure unavailable due to inability to obtain permission for reproduction; refer to original material)

It has been noted that deaf persons possessing orally-based internal speech tend to be superior in literacy skills than other deaf persons (Benderly, 1981; Conrad, 1979; Wood, Wood, Griffiths, & Howarth, 1986). However, Cambria, (1977) in a review of reading and language acquisition theories as applied to the deaf, doubts the phonemic approach is necessary for acquiring reading skills. He cites Denner (1970) who suggests that the spoken language of the problem reader may be so different from that of written language that it inhibits learning to read. Damerell (1985) echoes Cambria and considers as nonsense the statement that meaning cannot be gleaned directly from the printed page and that it must first be decoded into sound. Chinese ideographic writing is cited as an example of non-phonic-based writing (Damerell; Debes & Williams, 1978). Smith (1988), in a similar vein, feels the correspondence between letters and sounds is exaggerated and the important connection between letters and meaning of words are generally ignored. He comments: "Words are not *deciphered*; they are recognized. Written language is not *decoded into sound*, it has meaning brought into it" [emphasis Smith's] (p. 37). Smith's comments are reminiscent of those of Chorost. Truax (1978) points out that English is not a purely phonemic language and that "English orthography has sought to group the letters of many words of the language in meaning-relevant rather than sound-relevant ways" (p. 293), citing examples of English words that sound alike but have different meanings (e.g: loan/lone, pane/pain, and won/one).

Debes & Williams (1978) argue that languages upon which man's literary skills have been based have been visible languages, noting: "With few exceptions, it is probably accurate to say that no significant literacies of the ear exist" (p. 6). They note that the independence of literacies from the ear "have been demonstrated by the profoundly deaf who have, in some cases, achieved levels of literacies that have exceeded the levels attained by people with hearing" (P. 7). The authors observe that literacies have been achieved by those learning to read and write in foreign languages without ever hearing them. However, it should be noted that such learners already have their first language as a basis. In this light, ASL as a language base may be feasible for deaf learners.

Kelly (1987) offers a different viewpoint:

> Yet it is not uncommon for those who are inexperienced with the deaf to expect the diminished capacity to hear and speak language to be balanced by refined skills in reading and writing. After all, the deaf get extensive practice in spelling with their fingers and their opportunity to non-signers ought to promote formal writing skills. Although such an expectation may be consistent with some benign order of compensation, it represents a naive view of the way in which deafness affects literacy in English (p. 161).

Kelly cites as an example the prevalence of syntactic anomalies in the writing of deaf persons, suggesting that deaf writers may not be as sensitive as hearing writers to certain forms of syntactic anomalies. He identifies as major causes of syntactic anomalies in the writing of the deaf:

- Deafness: The linguistically bankrupt environment in which the deaf child is raised gives rise to the idea that auditory isolation from standard syntax contributes to deaf readers' reliance mostly on semantic understanding in order to obtain meaning from print at the expense of syntactic skill.

- Pedagogical: inadequate communication skills, lowered expectations, inability to motivate adolescents, inordinate emphasis on classroom communication to foster language skills, and emphasis on correction of individual unrelated sentences on the part of teachers all contribute to the poor writing skills of the deaf student.
- Limited vocabulary: This leads to convoluted syntactic structures, increasing the likelihood of grammatical errors.
- Sign language: While sign language is useful in the early stages of the deaf child's language development, there is concern that linguistic interference from it in late childhood may limit further development of English language skills.

The last point may be controversial, since there is increasing pressure on the educational system to incorporate ASL as a language of instruction, especially in regard to developing English language skills. Nevertheless, Kelly cites Charrow's (1974) research indicating that "Deaf English" - a pidgin-altered version of standard English arising from such a linguistic environment - tend to become well established in deaf students at the ages of 15 - 16 and that they continue to use it for the rest of their lives. The age range is interesting, considering the "leveling-off" phenomenon noted in Chapter 2. However, linguistic interference from sign language is open to question in view of the fact that there are similar syntactic anomalies by non-signing deaf students. For example, Wilbur's (1977) research finds the same errors across schools, ages and various communication modes. He does not believe that sign language is the problem. Rather, he attributes the problem to the heavy emphasis on the proper structure of the single sentence in language training programs.

Shaugnessey (1977) notes that a limited vocabulary is a frequent cause of syntactic errors in unskilled writers. He believes that the student, drawing on a limited fund of words, must write in convoluted syntactic structures in order to express the intended meaning, increasing the risk of error. Shaugnessey also notes that a limited number of opportunities to communicate through written English restricts the fluency required to produce complex sentence structures and express the intended meaning. Van Uden (1977) agrees, observing that the strongest barrier against a satisfying development of reading in deaf children is the lack of a vocabulary, more so than the difficulties with structures of sentences. LaSasso & Davey (1987) conclude from a study of 50 deaf students in a large residential school that lexical knowledge is an effective predictor of reading comprehension performance in hearing impaired students. The investigators note a lack of research positively linking lexical knowledge to reading comprehension skills in deaf students, suggesting that further research is needed to establish a causal link.

Sociocultural Factors

Socio-cultural factors play a crucial role in determining the success or failure of the deaf person in mastering literacy skills. Quigley and Paul (1984, p. 63) identify five shared notions of sociocultural research in linguistic development:

- Natural conversation is a bona fide source of data

- Sentences are not the highest level of analysis
- Social context is relevant to linguistic rules
- Variability is a component of linguistic rules
- Language functions are diverse in nature.

These notions are not universally accepted as there is still disagreement among researchers as to the validity of each; however, there seems to be a consensus that context is the most important (p. 63). While these notions are useful in establishing the parameters of the socio-cultural concept, research is not the focus of this section.

The illiteracy of the deaf may be a consequence of socio-cultural influences rather than of deafness itself. Current societal attitudes toward deafness resulting in the low socio-economic status of deaf persons may be traced back to ancient Hebrew and Græco-Roman eras. For thousands of years, deafness, especially prelingual in nature, has been associated with "dumbness" or inferior intelligence. There were specific laws singling out prelingually deaf persons as being incapable of assuming responsibility for themselves unless they possessed the ability to speak (Bender, 1970; Carver, 1988). An example is found in the Justinian Code, the foundation of modern law in the western world: those born "deaf and dumb" possessed no legal rights or obligations and were required to have guardians to conduct their affairs, as well as being forbidden to marry. Those who became deaf after having developed the speech faculty were allowed to continue to enjoy full rights (Bender, 1970; Scouten, 1984). In addition, on the basis of St. Paul's admonition, "So then faith cometh by *hearing* (italics added), and hearing the word of God" (Romans 10:17), the early Christian Church under St. Augustine's leadership decreed that the deaf cannot attain salvation because they cannot hear: "This impairment prevents faith" (Lane, 1984, p. 58).

The historic emphasis on the speech and hearing faculty for the attainment of a level of social acceptance and respectability cannot be ignored. Considering the profound impact of Judæo-Christian and Græco-Roman influences on the modern world, it is not surprising that such attitudes towards the deaf were carried over in to the modern era and came to be reflected in the deficit model orientation.

It has been shown that historical, although fallacious, beliefs about deafness have served to shape much of the way modern society perceives deafness and may have led to the current mind-set permeating the intervention and educational apparatus in the field of deafness: Deafness is a pathological and undesirable condition that must be "remedied" in order for one to be able to function "normally" in a hearing world. This may explain the priority assigned to speech/auditory training at the expense of practical education in the field of education of the deaf.

It has been suggested that disruptions in family dynamics adversely affect the deaf child's linguistic and cognitive development, especially those arising from the emotional distress parents experience upon learning of their child's deafness (Carver & Rodda, 1987; Greenberg, 1980; Norden, 1981; Schlesinger & Meadow, 1972). Sanders (1988) describes it well: "The search for miracles can translate into a powerful negative message to the child that is totally destructive to the self-concept, 'We'll love you on the condition that you hear or at least act hearing'" (p. 6). She goes on to state that adjustment to hearing impairment is a lifelong process for the child and the family and that the comfort and ease of communication offered by Deaf culture "often conflicts with the parents' hopes and expectations that they [their deaf children] will live and function entirely in the hearing community" (p. 8).

It has been shown that parental acceptance of the child's deafness plays a crucial role in the child's academic development: there is a positive relationship between these two variables (Corson, 1973; Norden, 1981; Greenberg, 1980; Schlesinger & Meadow, 1972). These researchers cite the example of deaf children of deaf parents who tend to have higher educational achievements than deaf children of hearing parents.

Song & Hattie (1984) discuss the role of the home environment in the academic achievement of children. They cite Song's (1982) research with Korean adolescents which found that, of all the variables in the home environment, the psychological characteristics of the family had the most influence on the child's academic achievement. These characteristics consist of: 1) encouragement and expectation, 2) educational activities at home, 3) parental evaluation of intellectual qualities of the child, and 4) rewards and punishments. Van Uden (1977) agrees that parental cooperation is crucial to the development of reading skills in deaf children especially in the expansion of the vocabulary. The United Nations Educational, Scientific, and Cultural Organization (UNESCO), in addressing approaches to educating the deaf, notes that "parents of deaf children are often inappropriately trained to expect their children to produce language in situations where parents do not normally expect this, particularly the use of referencing vocabulary" (UNESCO, 1985, p.11).

The importance of modelling desirable behaviour within the home environment should be emphasized. Bandura's (1971) social learning theory is centred around the belief that an individual's personality and behaviour are shaped through an observation of others' behaviour in his social environment. This concept of modelling is crucial to the development of literate children as Henderson (1986) reminds us:

> If children are not exposed to literate behavior at all, they will not learn to read and write. If, on the other hand, they are so exposed, if the model is there and they explore it, the likelihood is high that they will learn. Benjamin Franklin reports in his autobiography that he could not remember a time when he could not read. He was reared, as we know, in a printing shop (p. 71).

Carver (1985) cites such modelling on the part of his parents and grandmother as one of the crucial factors leading to his love of reading: "Both my parents and grandmother were passionate readers, and among my earliest memories was that of frequent trips to the public library in the perambulator" (p. 5). He goes on to describe his father as a crossword puzzle fanatic and his parents' love of word games such as *Scrabble*. Such an environment made for a highly literate deaf person. Truax (1978) agrees: "Opportunities to observe adults and older children using printed language provide a child with the understanding that reading may afford enjoyment and relaxation, provide important information, or provide the means for learning how to do things" (p. 281). She adds a note of concern:

> For a child who grows up in an environment where there are few readers to model and where experiences with printed materials are limited, going to school to learn how

> to read may not be a goal that the child sets for himself. He may question the emphasis on learning to read, and based on the attitudes and activities of the adults in his environment, he may see no outstanding reasons to value reading or to work at learning how (pp. 281-282).

She has essentially identified a key reason for the generally dismal performance of deaf students in the acquisition of English literary skills in school. Early intervention programs for deaf children should stress to parents and families the importance of establishing a home environment rich in print and reading behaviour in order to instill in their deaf children the _value_ of printed language.

Brasel (1975) examines deaf children's language development in the light of parents' communication competence and the type of early language and communication environment provided by the parents. Utilizing the Stanford Achievement Test (SAT) and the Test of Syntactic Abilities (TSA), he compares four groups: Manual English (ME), Average Manual (AM), Average Oral (AO), and Intense Oral (IO) with the finding that the ME group displayed an overall superiority over the other groups. The AM group scored higher than the AO group in the SAT and achieved parity with the IO in the TSA. Qualitative observations derived from interviews of parents are more revealing. It was noted that the IO parents expended every effort toward obtaining the finest and most intensive training for their children at the earliest possible age (by age 2) and worked hard at home to develop language in their children. In contrast, the ME and AM parents did not enroll their children in schools until at least the age of 4, although they were aware of their children's deafness since the age of 6 months or earlier. Typical responses from the

AM/ME parents in response to the question of home training consisted of: "We didn't have to train him in any special way. We just raised him like we did our other kids" and "No need. We are deaf, too" (p. 122). Again, in contrast, the IO parents "covered pages and pages with detailed answers on this question." It is useful to interject here Giorcelli's (1985) observation that teachers and parents expend much effort in formally presenting and rehearsing language with the deaf child at the expense of genuine conversational interactions where all elements of language such as speech, listening, syntax, semantics, and pragmatics could be practiced in an age- and environmentally-appropriate setting.

Brasel's study touches upon a crucial phenomenon: the relationship between the quality of parent-child relationship and the child's language development. This phenomenon was noted by Hörmann (1986) and Carver & Rodda (1987) who cite Bruner's theories in this respect. Bruner (1975) believes that the child develops his grammatical structures on the basis of joint tasks between himself and his mother, noting he "would not be surprised if the ontogenetic development of joint action between the mother and child contributed to the mastery of grammar to the cracking of its code" (p. 288). Bruner considers playful ambience a crucial element in this process:

> When things become too "serious" and intention-bound, communication regresses to the level of demand and counter-demand...the stimulative conventionalized and rule-sensitive spirit of play seems to be a *sine qua non* for language learning (p. 288).

The above premise is supported by Schlesinger (1972) who stresses that enjoyment of the deaf child by his parents has positive effects on his linguistic development and mental health, observing:

> A striking link was found between deaf youngsters judged to understand their mothers and to be understood by them, and a quality of joyfulness or pleasure in themselves and their mothers. Thus, the mothers of the understanding-understood children were more relaxed, more approving, more creative, and showed more enjoyment in the child. The children in turn were more free-moving, attentive, relaxed, creative, happy and cooperative and showed more pride in achievements and enjoyment in the interaction.
>
> The understanding-understood deaf children and their mothers *more closely resembled hearing children and their mothers* [italics mine] (pp. 100-101).

This raises the point of power relationships between the parent and the child. Schlesinger (1986) observes that when children feel powerless, "they tend to mistrust adults and prematurely assert their independence because they experience unreliable nurturance and protection" (p. 8). She adds that parents of disabled children experience feelings of powerlessness due to their lack of success in eliciting expected behaviours in their children. They tend "to have excessive contact, to be controlling, intrusive, punitive, and irritable" (p.9). The mothers of "understanding-understood" deaf children described above fit in with Schlesinger's description of parents who feel "powerful" and who are "more likely to grant and expect autonomy and to behave in more egalitarian terms" (p. 9). She notes that the advantaged, or "powerful", mothers have been shown to respond to their children three times as often as the disadvantaged, or powerless, mothers and to use control talk half as often.

She cites a pilot study which she designed (Schlesinger, 1982, 1985), comparing the dialogue style of advantaged and disadvantaged mothers of deaf children. Deaf adolescents were divided into two groups: Hi/Deaf readers and Lo/Deaf readers, the former above Grade 6.6 median reading level and the latter below it. A control group of hearing children was also selected. It was found that the mothers of the future Lo/Deaf talked to their toddlers at a significantly higher rate (20 utterances per minute) than the mothers of Hi/Deaf and hearing control groups (12.69 and 14.06 respectively). Schlesinger comments that, when the mothers of the Hi/Deaf group were "feeling less overwhelmed by the diagnostic crisis, they were able to develop optimal dialogue strategies" (p. 12), and while their utterances were fewer, they were higher in quality, or "super-responsive".

Schlesinger believes that such patterns of early language use are linked with later school performance. She cites Lavatelli's (1974) description of a disadvantaged child: difficulty in following directions, participating in discussions, comparing two objects, classifying, drawing inferences, and using rules efficiently. This description, according to her, parallels that of deaf children. She further describes the disadvantaged child as "demonstrating communicational egocentrism, to be less active in verbal initiative, less able to use the teacher as a resource, and as developing severe reading problems, especially around the fourth grade" (p. 15). Citing recent literature, she believes that the poor school achievement of deaf children is not attributable to deafness, poverty or ethnicity but to psychosocial dynamics which are not fully understood. Such dynamics centre around disturbed parent-child power relationships. Wood, Wood, Griffiths and Howarth (1986) suggest that the controlling behaviour of hearing parents toward their deaf infant is counter-productive: "Even when the adult 'demands' or 'grabs' the child's attention . . . the infant still has to *work out* what is going on. Indeed, rather than making the child's task *easier* it renders it more difficult" (italics authors', p. 23).

Schlesinger believes that supportive environments and networks that are "emotionally positive and are characterized by friendliness, intimacy, and confidentiality, warmth, tolerance, cheeriness, or a mixture of these" (p. 16) can reverse this process. To accomplish this, she suggests the following measures:

- Encourage parents' feelings of competence and ability
- Convey full knowledge and information about children's needs and developmental stages as well as the nature of deafness
- Help parents learn more effective dialogue strategies.

Luetke-Stahlman (1982) discusses the adverse impact of parents' negative attitudes toward sign language and Deaf culture on their deaf children's academic development. She observes that many parents refuse to acknowledge sign language as necessary to language development and may ignore the possibility of the child's eventual membership in the Deaf culture. She also observes that parents and children tend to communicate in fragmented language which could impair the development of cognitive and critical thinking skills in hearing impaired children. Schlesinger (1987), in discussing the effects of dialogue on academic achievement in deaf adolescents suggests that "anxious insistence on verbal skills occurs frequently with hearing parents of deaf children" (p. 8). She believes that this "early emphasis on verbal, or vocal skills for deaf children may rob some of physical literacy, just as the pessimism regarding their verbal skills may rob some of verbal literacy" (p. 8).

This is borne out by a disconcerting finding by Jordan and Karchmer (1986) in a study of patterns of sign use among more than 46,000 hearing impaired students in the United States during the 1982-83 Annual Survey of Hearing Impaired Children and Youth. Table 4.1 lists responses to three questions on sign use from this study. While two-thirds of the students indicate that they use sign language and are enrolled in instructional programs utilizing sign language, a much smaller proportion reports that their families use it at home. While the data do not reveal much about the actual communication situation in the home environment, and while there are certain variables such as hearing loss degree that may have some influence on the home communication situation (e.g. some may possess sufficient speech/audition skills to carry on dialogue with their families without needing sign), they do confirm that most families of such students, especially those with hearing parents, do not employ sign language. This is in spite of the fact a large majority of these students use sign language and their placement in such educational programs demonstrates a need for it.

A study of pre-school deaf children learning print concepts at home from their parents, utilizing an adapted form of the *Manual Prereading Test* (MPT), (Andrews and Mason, 1986) shows that manual language enhances such learning (Table 4.2). The

Table 4.1 - Responses to Three Questions on Sign Use, Annual Survey of Hearing Impaired Children and Youth, 1982-1983 (Jordan & Karchmer, 1986, p. 127)

(Table unavailable due to inability to
obtain permission for reproduction;
refer to original material)

Table 4.2 - Child Print Knowledge Achievement and Parent Manual Language Competency (Andrews & Mason, 1986, p. 287).

(Table unavailable due to inability to
obtain permission for reproduction;
refer to original material)

investigators caution that many of the low achievers were the youngest in the sample and this may be a confounding factor. Nevertheless, the results suggest a positive relationship between parents' manual language competency and the deaf child's print knowledge, and further research is required to establish a definite correlation.

However, the fact that many oral deaf children are successful academically cannot be ruled out. In a study of 441 oral deaf adults, mostly graduates of the Central Institute of the Deaf, the Clarke School for the Deaf and St. Joseph's Institute in the United States (Ogden, 1979), it was found that 30.6% possessed at least an undergraduate degree and a majority are occupied in professional level occupations. The respondents attribute their success to a supportive parent-child relationship in the home environment. Nevertheless, this does not mean the oral method per se has positive effects on the academic achievement of such students. It has been noted that deaf students from lower socio-economic levels tend to be placed in residential schools (which, by implication, are largely manual) (Quigley, Babbini, & Marshall, 1969, cited in Rodda & Grove, 1987). This variable has important effects on the academic functioning of deaf students as indicated in the following discussion.

The socio-economic status of deaf children has been identified as a major variable influencing their academic abilities (Rodda & Grove, 1987; Trybus, 1978). In examining the data derived from the Reading Comprehension and Communication Comprehension subtests of the Stanford Achievement Tests conducted on 6,871 deaf students between the ages of 8 and 20, Trybus notes a positive relationship between the reading achievement scores and the students' socioeconomic status: the higher the status, the better the score. Bettelheim & Zelan (1982) concur:

> Children who acquire a great interest in reading in their homes have an easy time in school, and they form the overwhelming majority of those who later become the good readers. The educational establishment points to them as demonstrating that the methods used to teach reading in school are successful. But it is not these methods that turned them into good readers and eventually literate persons . . . Were it not so, why should the children of more highly educated parents have such an advantage in educational achievement over the children of less well educated parents who are of equal intelligence? Why would so many children who come from culturally disadvantaged homes not become literate persons, although they have acquired the necessary skills for reading in school? One major difference between the children who teach themselves to read at home and those who learn it only in school is that the first group learns to read from texts that fascinate them, while the second learn to read by being drilled in skills of decoding and word recognition from texts devoid of meaningful content that are demeaning to the child's intelligence (pp. 9-10).

The implication here is that some problems cannot be overcome educationally. Hearing children from similar backgrounds have problems learning. The need to survive interferes with the learning process. There is a need for additional research in and development of special intervention strategies designed to meet the linguistic and cognitive needs of young deaf children from disadvantaged socioeconomic groups and to enhance their academic opportunities.

> **It is clear--and not an over-statement--that we do not know how to teach deaf, or even partially hearing children to read** (Conrad, 1979, p. 175).

Harlan Lane (1986) makes harsh accusations against the educational establishment in regard to the illiteracy of the deaf:

> It appears that the English-illiteracy of deaf children is, in fact, acceptable to the profession of deaf education. . . . Most deaf pupils are illiterate . . . because their own extensive language skills are not acknowledged in the school; they are demeaned or denied. . . . Most deaf pupils are English-illiterate because the systematic oppression of American Sign Language (ASL) shuts out the most effective strategy for teaching a second language (pp. 3-4).

While such claims have yet to be empirically established, their validity is a subject of discussion in this section.

LeBuffe (1980) believes that most teachers of the deaf are sincere and well-meaning but are "doomed to struggle" due to a basic mistake: Teaching things in the wrong order. He notes that in some programs deaf children are being taught to write before they could read and to read before they could carry on a conversation. Wood, Wood, Griffiths and Howarth (1986), in a discussion of results from their research on language development in deaf children, believe that the quality of teaching plays a large part in the success of deaf children in reading. Rodda and Grove (1987), in supporting the concept that reading is the most effective receptive method, advance a reason why reading as a mode of instruction was given little attention by educators: "The results of normative surveys of reading skills among the deaf have overwhelmingly convinced educators and others that hearing-impaired children possess extremely poor reading ability" (p. 221).

Training programs for teachers in the field of education of the deaf have been identified as a major factor in this sorry state of affairs (Johnson, Liddell, & Erting, 1989). Kyle & Pullen (1988, p. 56) observe that "it is possible to become a trained professional without being assessed in ability to communicate with deaf people" and note that there is a "tendency to value this linguistic aloofness and to identify deaf people's use of sign language as a part of the handicap." They add that learning sign language requires the same commitment as any other language learning does and there usually is not enough time in professional preparation.

This observation is supported by Harlan Lane who compares the 18th century French clerics with modern-day professionals. He finds it ironic that the clerics, with no teacher training, had greater success in educating the deaf than today's professionals. "They were committed to *education* (italics Lane's), not just to teaching. Today we have a system committed to teaching, regardless of whether the students really become educated" ("Language is the Key", 1985, p. 4). Furthermore, most training programs are oriented to the deficit, or "special education," model (Doe, 1986). Such a model reinforces in the student the awareness of problems and inadequacies of deaf students, causing them "to start school anticipating low achievers" (p. 8). Doe also notes that such programs provide teachers intensive training in speech and language but little else on other academic subjects. S. Carver (1987), in a nationwide study of training and educational opportunities for deaf students sponsored by

Employment and Immigration Canada, concurs: "Teacher training programs tend not to instill in their students the need to develop appropriate attitudes towards the hearing impaired children such as having higher expectations" (p. 24). An extreme example of a defict-model teacher training program is described and advocated by Ling, Ling, and Pflaster (1977). It places a heavy emphasis on the training of "teacher/therapists and the "treatment" of deficits in the hearing and speech function in deaf children. Johnson, Liddell, and Erting (1989) comment:

> In most such programs, it is rare to have a course about deaf people interacting with each other, a course that teaches about the role of ASL in the ordinary development of deaf children, or even a course that teaches a future teacher to understand or produce ASL. In fact, virtually all such programs teach only some system for SSS [sign-supported speech], and usually require only two or three such classes. The result is that, although trainees meet the expectations of the program, they are nevertheless singularly unprepared to teach deaf children (p.12).

In this light, a shift of focus from a special education orientation to that of minority education with a socio-cultural emphasis as well from an auditory orientation to a more visual one is advocated (Erting, 1985; Johnson, Liddell, & Erting, 1989; Lane, 1986). Erting (p. 125) comments:

> Until teacher training programs . . . begin focusing on the strengths and abilities of deaf children in the visual realm rather than their deficits in speaking and hearing -- until they focus on actual accomplished communication in the classroom; educational strategies and goals will remain unrealistic and efforts ineffective.

Boston University's deaf education program offers a bicultural/bilingual model that downplays the deficit aspect of deafness. For example, in its core course list, only one audiology course is offered while five American Sign Language courses are provided (Boston University, 1987) (see Appendix "A" for a more complete description of the program).

Denison's observations of the communication competence of teachers advocating the oral method have been noted earlier. These observations raise questions as to the effectiveness of teachers in the crucial two-way communication processes in classrooms involving deaf children. LeBuffe (1979) cites this as a factor in the generally poor literary achievement of deaf students: "It is easier for teachers who are poor signers to give written work and copying exercises than it is to develop the sign language and conversational skills needed by their students" (p. 25). Of interest is the allegation of a graduate of the Atlantic Provinces Resource Centre for the Hearing Handicapped in Amherst, N.S.: "Teachers depend on the oral method, not signing. Students don't have a choice. Everything is controlled and students are left out of the process. There's no respect or understanding" (Krawchuk, 1989). This topic is discussed in more detail below.

Teacher expectations of deaf children play a large role (Cundy, 1988; Doe, 1986), as has been noted earlier. Lieben (1975) notes that deaf adults often complain that too little was expected of them in school. Johnson, Liddell and Erting (1989) take the position that the failure of education of the deaf is attributable to two major problems: insufficient linguistic access to curricular content and low expectations. In a phenomenological interview with a deaf adult (Carver, 1986), the subject indicated that in her early years in an oral school for the deaf she dreamed of becoming a teacher of the deaf, but she was told by her teachers that the deaf "cannot teach or do this or that" (p. 12). She also accuses hearing teachers in general of teaching the deaf "what they think is good enough for the deaf" (p. 14). Particularly revealing is the response when a 14-year-old deaf student asked her teacher to teach her about the moon and the stars at the Atlantic Provinces Resource Centre for the Hearing Handicapped: "You're deaf, you don't have to learn about the moon and the stars" (Bateman, 1989, p. 3). In another related example, Lieben (1975) cites an observation made by a deaf adult in a 1973 Ontario study (Reich & Reich): "In deaf school, when finished reading, teacher asked, 'what did the boy do?' In hearing school, asked 'what was the climax?'" (p. 9).

Subtractive bilingualism (Schein, 1984) has been cited as a reason for the educational difficulties not only of linguistic minorities but also of the deaf as well. Lambert (1981) describes subtractive bilingualism as a state in which one of the child's languages, especially his first language, is not respected, leading to an impairment or reduction of his intellectual activity. According to him, it contrasts with additive bilingualism in which both languages are equally respected and valued, stimulating intellectual activity. Woodford (1987) indicates that educators tend to attribute errors in the writing of deaf students to their deafness, but she argues that such errors are consistent with second language learners. Indeed, Luetke-Stahlman (1982) attributes the literacy problems of minority children to their teachers' low expectations of the child's ability to learn or maintain a first language as well as being insensitive to the child's cultural background. Horner (1975) attributes illiteracy and educational failure in non-English speaking children to the hostility of the school system towards the children's native languages and advocates respect for the child's first language.

Woodward and Allen (1987), in a study of ASL use among 1,888 teachers of the deaf in the United States, came up with some disturbing findings: 1) only 140 (2%) claimed to use ASL; 2) of the 140, only 25 may be using it; and 3) of the 25, only 6 are probably using it. The investigators conclude: "Many teachers still do not know the difference between ASL and English, nor do they tend to use ASL as their primary method of classroom communication" (p. 9). Considering the historical hostility of the educational system towards ASL (Erting, 1978, 1987; Lane, 1980) it is not surprising that illiteracy and educational failure are common in deaf education. It is as Paul (1973) says: "The deaf person who is truly bilingual, and who knows both Ameslan and English is rarely encouraged to be equally proud of both" (p. 41).

Erting (1987) offers an interpretation of the hostility of educators towards ASL. She notes that teachers of deaf children are usually "young, white, highly educated females with normal hearing"[1] (p. 139) in whom were instilled the goal of developing in deaf children the skills necessary for functioning in a hearing society.

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[1] A survey of 680 English teachers of the deaf in the United States by Woodward, Allen, & Schildroth (1987) shows that 91.5% of them are white, 90.6% female, 91.6% hearing, and 88.2% having done postgraduate studies.

She describes them as being constantly challenged to show themselves as being "successful" in the face of "failure" to produce a successful deaf student, tying in their beliefs about the meaning of success with their own identities as hearing, speaking individuals. In this light, according to her, such success is "almost synonymous with English language competence, and even more specifically, spoken English language competence" (p. 140). In this light, their identities

> . . . are challenged not only by their deaf students, but also by Deaf individuals and occasionally by hearing individuals who do not subscribe to the definitions of success described above. For example, when Deaf parents call for the use of ASL in the classroom, or insist that their children not be required to use hearing aids, and when they express a different opinion about the role of speech in their children's lives, the hearing educators' identities potentially are threatened. Regardless of the impact on these challenges on the hearing educators' notions of selfhood, there is also the potential threat to the job security of educators who have invested in the pursuit of a highly specialized career. When Deaf parents devalue the areas in which hearing educators have expertise -- such as speech, auditory training, the use of hearing aids, and signing manually encoded English -- and emphasize instead areas of expertise that few, if any, of the educator possess -- such as fluency in ASL -- hearing educators might well perceive a threat to their job as well as to their professional identity (p. 140).

Kannapell (1980) offers a valuable qualitative insight into the role of a deaf student in the learning and social processes in a setting dominated by hearing persons:

> I did not feel good about my speech and English skills, but I tried hard to communicate with hearing people on their terms. I limited my facial expressions and body movements, was worried about using correct English,

> tried to use my voice, and was anxious to end conversations with them. Hearing people in general were always interested in how well I talked or heard or wrote English; they didn't seem to be interested in making friends with me. The teachers always corrected the errors I made in writing or talking and the supervisors always said, "Don't do this or "Don't do that." They never sat down for a moment to chat with me or other students as friends. This is why I socialized with deaf people for a long time (p. 106).

The self-concept of the deaf child has been advanced as an important factor in his literacy development, especially in regard to sociolinguistics. It has been suggested that negative attitudes towards ASL on the part of educators play a large role in hindering the literacy development in the deaf child (Kannapell, 1980; Lane, 1986). Kannapell, a deaf person, raises a valid point:

> If you want to change ASL or take ASL away from the person, you are trying to take his or her identity away. I believe "my language is me." To reject a language is to reject the person herself or himself. Thus to reject ASL is to reject the deaf person.
>
> Once I learned ASL is my native language, I developed a strong sense of identity as a deaf person and a more positive self-image. Once I accepted ASL as my native language, I became eager to improve my English because I was able to accept hearing people as equals (pp. 111-112).

Echoing Kannapell, Smith (1988) notes that the rejection or changing of a person's language is to reject the "very essence of that person". In this light, Luetke-Stahlman (1982), in order to ensure academic success, suggests a positive atmosphere in school programs to foster pride in both sign language and the culture of the Deaf. The "Deaf Spectrum" as described below is an example of such an atmosphere.

Harris & Stirling (1986), in discussing research on the self-concept and identity of deaf students at the Kendall Demonstration Elementary School (KDES), note ambivalence among themselves about their own identities. They identify a reason: these students receive inadequate information on deafness, the Deaf community and its cultural values. Their research uncovers the following common perceptions of deaf students:

- They tend to label deaf teachers and professionals as hearing because they do not wear hearing aids.
- They identify as deaf those deaf and hard of hearing persons who wear hearing aids.
- They identify anyone with good signing skills as deaf.
- They switch identities: deaf, hard of hearing, hearing impaired, or hearing, because they are often confused about their own identities.
- Some believe they will become hearing because their other hearing family members are hearing.
- Some believe that illness could reduce or restore their hearing.
- Most deaf children of hearing parents tend to focus on hopes or expectations that they will become hearing or hard of hearing as a part of the "moving up" process.

The authors describe "Deaf Spectrum," an approach at KDES which infuses Deaf studies, Deaf awareness, Deaf heritage, Deaf culture and other related areas into the school curriculum to create higher levels of awareness in deaf students of deafness and themselves as deaf individuals:

> Deaf children need to know who they are first before they can participate effectively in non-deaf society. The education about the deaf spectrum that children receive

> in schools will enable children to become self-supporting individuals and to appreciate their own abilities rather than dwell on the concept of deafness and deafness as a handicap (p. 46).[2]

Closely tied in with the deaf student's self-concept is the role of deaf teachers in his education. Their beneficial role in the education of deaf students has received considerable comment in the literature (e.g.: Cundy, 1988; Erting, 1978; Lane, 1984; Stewart & Donald, 1984), although there has been only a limited amount of research such as that of Cundy. The NIB (1984) also offers a useful insight into the value of native role models and control in the education of native children; it is very pertinent to the role of Deaf adults in the education of the deaf. Of particular interest is the reference to non-native teachers:

> The role which [non-native] teachers play in determining the success or failure of many young Indians is a force to be reckoned with. In most cases, the teacher is simply not prepared to understand or cope with cultural differences. Both the child and teacher are forced into intolerable positions (p. 143).

NIB considers an "urgent need" the employment of Indian para-professionals such as teaching and/or counselling aides, going so far as to suggest that their own effectiveness and cultural experience rather than degrees or certificates should be the key criteria in employment. NIB concludes with a call for increased government support for teacher training for natives.

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[2] Parallel to this concept is the position of the National Indian Brotherhood (NIB) (1984): It advocates the establishment of cultural education centres which would provide for personal development necessary for social and economic achievement. The NIB explains: "This personal development is achieved when an individual knows himself fully: His personal identity, dignity and potential" (p. 142).

Cundy's (1988) phenomenological analysis of the impact deaf teachers have on deaf students identifies six thematic clusters: role modelling, self-identity, communication, empathy, shared experiences, frustrations, and references to hearing teachers. Communication was identified by the investigators as the most important and that fluency in ASL was the strongest asset of deaf teachers, making it easier for deaf students to learn core subject areas. Cundy also notes a definite two-way communication "that invites children to open up and share information; hence their ability to share information in a classroom setting is enhanced" (p. 61). It is as Freire (1971) says: "Without dialogue, there is no communication, and without communication, there is no education" (p. 81). This is an especially important observation as dialogue provides the pragmatic support crucial to communication and linguistic competency.

A phenomenological interview exploring the role of deaf teachers (Carver, 1986) reveals a crucial phenomenon in education of the deaf: deafness per se becomes a non-factor in classroom interaction between deaf teachers and their deaf students. In this case, the deficit model as described by Kyle & Pullen (1988) and Webster (1986) ceases to exist in such classrooms, and such classrooms take on an atmosphere of normalcy. Freire (1985) makes a valuable point:

> On the basis of the social experience of illiterates, we can conclude that only a literacy that associates the learning of reading and writing with a creative act will exercise the critical comprehension of that experience, and without any illusion of triggering liberation, it will nevertheless contribute to its process.

> *And, of course, this is no task for the dominant classes* (italics mine) (p. 17).

Implicit in this observation is the need for deaf persons to take a more active, commanding role in the educational processes.

The dearth of qualified deaf teachers in many deaf educational programs and the general indifference of the educational system to this beneficial factor is a serious concern. In a survey, 122 experts in this field, who were identified as being in a decision-making role over the next decade, were asked to rank forty-eight developments in desirability (Prickett & Hunt, 1977). The hiring of deaf teachers ranked near the bottom in 45th place. A U.S. study of teacher role models in elementary school programs for hearing impaired children by Woodward, Allen, and Schildroth (1988) shows that the proportion of hearing teachers is 88.9% in special school programs for the deaf and 95.6% in local school programs. This is an alarming finding especially when only 0.6% of such teachers in local school programs are deaf and the trend toward more local programs is on the rise. It is as the authors suggest, the vast majority of hearing teachers in such elementary programs "serve as role models of Hearing cultural values" (p. 190).

The need for the immediate employment of more deaf teachers is imperative, but this field is faced with a "Catch-22" situation. It is unable to produce enough deaf students eligible to obtain the requisite training. A possible solution to this situation is to create more flexible employment conditions for deaf adults in this field such as "paraprofessionals" along the lines as earlier suggested by the National Indian Brotherhood. At the same time, governments may have to commit themselves more actively to the training of Deaf persons to become teachers of the deaf.

Resnick and Robinson (1975) believe that motivation plays a crucial role in the development of literary skills in disadvantaged children, observing a variable in terms of the rate students learn: **perseverance**. They single this out as the most important indicator of motivation and argue that it is not a function of heredity, early socialization, or current cultural conditions. It is the outcome of an interaction of these factors within the educational environment. They identify four factors leading to perseverance: 1) aspiration, 2) expectation, 3) external rewards, and 4) intrinsic reinforcement. Their discussion of aspiration, or desire to read, is of special interest: "Long periods of preparatory linguistic, visual or auditory training, for example, however well-founded from a pedagogic point of view, may flounder because they fail to make contact with the child's and the community's aspirations" (p. 262). Rodda and Carver's (1983) findings on the aspirations of parents of deaf children and of the deaf community (discussed in Chapter 2) illustrate this point.

The degree of power which the deaf child has over his own life and which others have over the deaf child plays a large role in determining his eventual academic status. Schlesinger (1986) discusses the effects of powerlessness on dialogue and development:

> Disproportionate numbers of persons who are poor, deaf, or otherwise disabled share a number of psychological orientations such as visual versus aural, external versus introspective, spatial versus temporal, outward aggression versus self-blame, and present versus future. They also have been described as immature, impulsive, dependent, and manipulative, and as lagging in academic

> and vocational achievement despite normal intellectual potential.
>
> These similarities are engendered by disturbed or distorted power relationships between parents, children, and others throughout life. It is believed that the original distortion is due either to parental experience with powerlessness on a personal level or through membership in a group that is subordinate to the dominant society (p. 1).

Schlesinger describes powerlessness as "an individual's perception of self as not having the cognitive competence, psychological skills, instrumental resources, and/or environmental support systems needed to successfully influence his or her environment" (p. 4). She believes there is a connection between academic achievement and the sense of control over one's environment within the child.

There have been numerous references to the deaf as an oppressed minority in the literature (e.g. Abberley, 1987; Carver, 1987; Doe, 1988; Kyle & Pullen, 1988; Lane, 1986). Baker-Shenk (1985) describes the deaf as an oppressed minority in the following fashion:

> It means having your teachers and counsellors tell you that you don't have a language, that ASL is not a language, that Deaf people don't have a "culture." It means a denigration of ASL as less intelligent and less than fully human and an intolerance of and prohibition against its use in your schools. It generally means having teachers who can't communicate with you and hence, can't help you learn--while at the same time you are blamed for your poor academic performance. It means being deeply aware that hearing people view your group as being less intelligent, emotionally and behaviorally deviant, and incapable of self-determination. It means being told that you need hearing people to help you. It means receiving a poor quality education, and then a lack of jobs or opportunities for job advancement, and a lower

> average income. It also means not having decision and policy-making power in the educational, medical, rehabilitation and social service institutions that are supposedly serving you (p. 6).

Baker-Shenk touches on the topic of the language of power. She notes that language usually divides people into two groups: the oppressed and the oppressors. Schein (1984) illustrates this particular point:

> Governments have seen control of language as a means of dominating the citizenry. The idea is not in the least absurd. If all government is conducted in a language other than your own, then you do not have ready access to that government. If you cannot understand what is said about you in court, you cannot adequately answer your accusers. If you cannot read the placards, fill out the forms, and in other respects communicate with the government, then you are the government's vassal. You will not be able to advance your status in a government whose language you cannot use. Your livelihood, and possibly, your life will be in jeopardy should a language not known to you become the basis of commerce (p. 8).

Carver (1987) notes that the "most significant example of the oppression of the deaf is the suppression or the adulteration of the sign language of the deaf" (p. 27). As noted earlier, a vast majority of teachers of the deaf do not use ASL as a language of instruction. Baker-Shenk (1985) offers an interpretation slightly different from that of Erting earlier in the chapter:

> An important characteristic of the dominant, oppressor group is their fearful and angry reaction to the attempts by the oppressed to become free. They perceive the liberation of the oppressed as taking away their own (oppressor's) freedom. When deaf people insist that deaf education teachers should be skilled in ASL, hearing teachers become threatened and angry. They fear their

> loss of control, the control they maintain by using their own language instead of deaf people's (p. 8).

Freire (1972) identifies as a tool of oppression in educational settings the "banking concept of education." Wallace, (1982) in applying this concept to education of the deaf, identifies it as a one-way process of learning in which the student is externally controlled by outside forces. Freire ties the banking concept to the belief of the oppressors that the oppressed are the "pathology of a healthy society" (p. 60), which may explain the emphasis of the International Congresses on speech and audition rather than on education per se. Wallace notes that education of the deaf would be enhanced if educators viewed the deaf students as active learners. Indeed, Freeman, Carbin and Boese (1981) attribute the illiteracy of the deaf to the lack of constant and natural two-way use of the surrounding spoken language. In Freire's view, this approach is utilized by the oppressor to minimize the students' creative power and to increase their credulity. He adds that "humanitarianism" is usually employed by the oppressors to preserve a profitable situation (p. 60). The banking concept implies passivity on the part of the students; King and Quigley (1985) find that, in educating the deaf, teachers initiate communication exchanges 90 percent of the time.

Being in this situation, the oppressors react adversely to any experiment in education which "stimulates the critical faculties" (Freire, p. 60). Carver (1987) notes that Freire's analysis "brings to mind claims that progressive changes in education of the deaf are frequently hindered by those with a vested interest in maintaining the status quo" (p. 34). A review of Brill's (1984) historical analysis of the International Congresses on Education of the Deaf since 1878 reveal how deaf participants have been segregated and slowly excluded, while progressive ideas contributing to the academic enhancement of deaf students have been ignored or given low priority in favor of speech and auditory approaches.

A colleague, a former oral teacher of the deaf, has trouble with the use of the term, "oppression," as applied to the education of the deaf. In a conversation, she states: "I thought I was doing the best I could, but I saw quickly the problems. However, some people are unable to see." She adds that ignorance, misunderstanding, and indifference are a more accurate description of the situation, and, consequently, their effects are oppressive. Her argument has a valid basis; there are undoubtedly many educators who have the best interests of the deaf student at heart and who genuinely desire to see them succeed. However, it would appear that such teachers, while not being oppressors themselves, may be as much victims of the "system" as their deaf students are. That is, instead of being oppressors themselves, they more probably are instruments of oppression without their realizing it. The "system" in question is the society's perception of deafness and the overall educational philosophy that focuses on the deficit model as described earlier.

Carver (1987), in an analysis of Freire's oppression theories as applied to the education of the deaf, points out that the deaf educational field is largely "antidialogical" in nature, and Freire clearly identifies the antidialogical process as an instrument of oppression. Freire (1971) also observes that oppressors may not realize they are oppressors, and when they do find out, "discovering himself to be an oppressor may cause considerable anguish, but does not necessarily lead to solidarity with the oppressed" (p. 34). He goes on to state that this leads to a rationalization of his guilt through a paternalistic treatment of the oppressed while continuing to hold them to a position of dependence. This may be an accurate description of the field of the education of the deaf.

An observation by Rodda (1985) sums up the discussion on the topic:

> The dominant languages of deaf people in these cultures [in Canada, U.S.A. and Britain] to some extent represent a threat to both hearing and deaf native English language users. However, the rejection of such languages in schools and elsewhere is also an example of the organizational convenience which is so often a major criterion in policy decisions. It is understandably difficult for us to accept multiculturalism in an ethnically dominant English-language society, even though research data clearly confirm second language learning of English is a better approach for many deaf students. Once ASL or BSL is elevated to the status of a first language, the special skills and knowledge of the English language possessed by hearing people become much less important than the special skills in ASL, BSL or an equivalent language important to any deaf people. Indeed we establish a requirement that people who choose to work with deaf people either acquire skills in ASL or BSL or obtain the services of an interpreter. *Such a requirement changes the status relationship between hearing and deaf people., and makes communication as much a responsibility of the hearing as of the deaf person.* Attitudes are changing, but most of us are still unwilling to make the switch. Therefore, we continue to suppress ASL or BSL as the chosen languages of deaf people .
>
> Educational policies concerning the use of ASL or BSL will not be properly resolved until we reconceptualize our attitudes toward deafness (italics mine) (p. 174).

Summary

While there is a connection between hearing loss degree and the reading and writing abilities of the deaf person, it does not so follow that deafness is a direct cause of illiteracy in deaf persons. However, research shows that diagnosis of deafness and exposure of the deaf child to a usable language at a very early age is crucial to the literacy status of the deaf student. The key lies in what constitutes a "usable" language for the very young deaf child and the most effective and efficient sensory modality through which to acquire language skills. It has been shown that children possess the extraordinary ability to acquire language on their own from their social environment and deaf children are just as capable of developing such skills, provided that their access is unimpaired through their visual channel and their information is highly visible. Language learning is essentially a social process and cannot be taught effectively in an intentional or structured fashion. At the root of language competence is its pragmatic use. Deaf children, especially those with hearing parents, generally have little opportunity to develop their pragmatic skills which can severely impair their communication, and ultimately linguistic, competence. It is possible and crucial for deaf children to utilize print language and to internalize its value for everyday life from a very early age. Print language presents advantages to deaf children that oral or sign language cannot duplicate.

Family dynamics and the home environment play a critical role in determining the literacy status of the deaf student. A major problem is the inadequate preparation of hearing parents in the development of their deaf children. Parents can and should have the power to significantly influence the conditions ultimately enhancing their children's literacy status. Deaf children whose parents communicate with them in a cognitively undemanding and relaxed manner and in a mode that allows for free, two-way communication are more likely to attain functional literacy status than those with parents who try to control the communication situation.

The quality of teaching also plays a crucial role, and the deficit model orientation of many teacher training programs is probably the chief factor why so many well-intentioned teachers have failed to make functionally literate persons out of their deaf students. The communication competence of teachers of the deaf is brought into question. Dialogue has been identified as crucial to the educational process, and if teachers do not communicate in a manner that can be easily understood and utilized by their deaf students, then there is neither dialogue nor education. Teacher attitudes and expectations have a significant impact on the self-concept of the deaf student. Self-concept is identified as a major factor in the literacy status of any minority group student, including the deaf. Central to self-concept is a sense of one's identity. Deaf culture, ASL, parental acceptance of deafness, the sense of control over one's own life, and Deaf teachers all have key roles in enhancing the deaf student's self-concept. The dearth of deaf professionals, especially teachers, in the field of deafness is an area of deep concern and swift measures are urged to correct this.

The Deaf are an oppressed minority group, and their education - and their illiteracy - reflects the effects of oppression. Whether this oppression is deliberate is still open to question. Their oppression arises from the deficit model orientation of the field, and it is unique in the sense that much of it is unintentional and indirect. Nevertheless, much of the educational establishment is oppressive in nature since it does not promote genuine dialogue and acceptance of ASL and Deaf culture. Possibly the only way to reduce the effects of oppression and to enhance the literacy status of deaf students is to involve deaf adults and professionals in significant numbers in all aspects of the field of deafness.

V: LEARNING AND PEDAGOGICAL APPROACHES AND ISSUES

> **When educators limit their understanding of this complex issue, which they may not appreciate (or wish to appreciate), their solutions are always of a mechanical character.** (Freire, 1985, p. 7)

In this chapter, the various learning and educational approaches specifically aimed at developing literacy skills not only in deaf students but also in hearing students are examined and their effectiveness compared. In addition, methodological and philosophical issues will be discussed. The traditional emphasis on teacher control and on structure over content and correction in teaching English to the deaf has come under heavy criticism (Brennan, 1975; Giorcelli, 1985; Gormley & Franzen, 1978; Kannapell, 1980; Wilbur, 1977; Wood, et al, 1986). Frank Smith's theories and approaches on developing literacy skills receive close attention in this chapter and are applied to the deaf.

Methodological Issues

Bunch (1979) identifies two major language teaching approaches in the field of deafness: the natural approach (e.g. Groht, 1958; van Uden, 1977) and the formal approach (e.g. Blackwell, Engen, Fischgrund, & Zaracadoolas, 1978). He concludes after an investigation that neither approach is effective, suggesting that language instruction in school does not allow for normal developmental patterns. He expresses the view that the majority of deaf students could not be expected to acquire adequate control of written language under existing methods. Maxwell (1983), from a different perspective, notes three approaches in presenting a model of teaching English to deaf children: 1) an exclusively aural (unisensory) approach; 2) oral/aural approach (use of residual hearing supplemented by speechreading); and 3) multimodal approaches (total communication or simultaneous communication).

Auditory and Oral Approaches

Advocates of auditory/oral approaches appear to be divided over the optimal time for the acquisition of reading and writing skills by the deaf child. The Ling method advocates the delay of reading instruction in deaf students until at least the age of twelve when they would have mastered oral communication skills (Ling, 1974). The basic premise of this approach is that visual linguistic input of any type would interfere with developing auditory skills. Andrews (1988) quotes a tenet of the National Aural Group in Britain:

> The written word is not seen as a medium through which language is learnt. As with all children, the establishment of a hearing impaired child's spoken language should precede the use of its written form (p. 54).

Lenneberg (1972) questions this approach in recounting a visit to an oral school, where he commented to a teacher on the paucity of books in the library. He received a lecture from the teacher in that excessive reading of books was harmful to oral education and would distract the child from using phonics. He disagrees: "Early presentation of graphics is no menace to oralism; it is apt to facilitate it" (p. 47). Booth and Hall (1988) also note that oral education tends to downplay the role of literacy. Maxwell (1983) observes a lack of empirical research supporting a "reliance on substandard hearing for perception and acquisition of language" (p. 96) as well as on lipreading.

Ling, Ling, and Pflaster (1977), in a review of educational approaches and trends, conclude that speech teaching and the child's ability to speak are important. They acknowledge the past mistakes of oralism, but argue that much of the failure of the oral approach lies not in the principle itself, but in its application and the competence of professionals. Their response to this situation is a proposal for an intensive and highly specialized teacher/therapist training program and the employment of such trainees in educational programmes in a costly, labor-intensive fashion. Their focus in educating the deaf child is still on developing oral communication skills; they make no reference to developing literacy skills.

A dissenting view is promoted in which written language should be used concurrently with the development of oral skills in deaf children (Andrews, 1988; Groht, 1958; van Uden, 1969; 1977). As early as 1927, Thompson advanced the notion that deaf children demonstrate greater achievement in reading and eventually in oral language when reading was emphasized first (Cited in Brill, 1984). Van Uden singles out reading as the key to language acquisition in the sense that deaf children can learn to find the grammatical rules mainly by reading, a sentiment that is echoed by Quigley (1980). Judging from the above analysis, the pre-eminent role of aural/oral approaches in education of the deaf for at least a century did not accomplish much in enhancing the literary skills of deaf students. It may have actually harmed them. Vandenberg (1971) observes in a New Zealand study that, while oral deaf children demonstrated superiority in oral communication, their communication skills were acquired at the expense of reading and written skills, suggesting that education of the deaf should not be focused on the development of oral skills. Rodda and Grove (1987) bluntly state: "Even under optimal conditions, it [oral reception] is unequivocally the least effective method of communication for deaf children and adolescents" (p. 217). Maxwell (1983) correctly observes: "The traditional oral-lipreading approach has not yielded a deaf population with good English proficiency" (p. 97).

Total Communication and Manually Coded English Approaches

This section focuses on sign-supported communication systems which do not incorporate American Sign Language (ASL): "Total Communication" (TC), simultaneous communication (SC), and manually-coded English systems (MCE).

Total Communication began to proliferate in deaf educational programs throughout the United States in the late 1960's and early 1970's mostly in response to the failure of the oral approach in providing an adequate education to deaf students. By 1976, 333 out of 796 educational programs for hearing impaired students reporting in a survey had switched to TC, and it was used in 4,619 classrooms as opposed to 2,370 classrooms utilizing the oral/aural approaches (Jordan, Gustason, & Rosen, 1976). Even with the proliferation of TC, American deaf students of the 1980's still come out of educational programs with poor literacy skills, as indicated by the data in Chapter 2. Quigley and Paul (1984) are unable to find any evidence supporting the effectiveness of TC in enhancing English language skills. Despite the wholesale switch to it, TC was to have been a child-centred approach, but, as Mason and Carver (1986) note, it "mutated" into an educator-centred one, which, in my opinion, is nothing more than a variety of Simultaneous Communication and/or Manually Coded English. It is an opinion supported by Johnson, Liddell and Erting (1989): "The required 'mode' of communication in virtually all Total Communication programs is spoken English supported by simultaneous signs" (p. 4), or "sign-supported speech" (SSS), as they call it. Freeman, Carbin and Boese (1981) observe that ASL is not officially recognized as a part of TC, despite Stewart's (1984) contention that it should be, terming it a "forgotten aspect of Total Communication."

Simultaneous Communication is "basically bimodal English, with full English being presented in the speech channel and a systematically abbreviated form of English presented in the sign channel" (Bernstein, Maxwell, & Matthews, p. 131), with the sign alone being neither representative of ASL nor English. Bernstein, Maxwell and Matthews suggest that "one cannot look at the sign channel for an analysis of 'what it takes,' because in SC the sign channel takes the form of coordination with the speech channel and the conversational context" (p. 132). As it was noted, not all spoken English words or markers (e.g. verb tenses and plural forms) are represented in sign. An example is given here:

Speech: *I am doing a study of reading and writing skills.*
Sign: **I do study read and write skill.**

Bernstein, Maxwell and Matthews observe that pronouns are often unsigned while vocalized. Their studies indicate that simultaneous communication is basically English-driven and that the sign channel is not a pidgin form. In other words, SC is not representative of the ASL-English continuum, but rather of a bimodalilty continuum from speech only through "dominant use of speech accompanied by sign" to "dominant use of sign accompanied by speech" to sign only (p. 138). Maxwell (1983) cites studies suggesting that simultaneous communication as used by teachers is both deficient grammatically and semantically. It appears that SC requires a degree of prior lingusitic competence in order to be able to use it fluently.

In theory, MCE should foster a greater sensitivity to the English syntax on the part of deaf students by making it visible, leading to a greater proficiency in English language skills. In practice, it appears that it has not been the case, despite some studies demonstrating its superiority to other communication modes in terms of enhancing academic achievement in deaf students (e.g. Brasel, 1975). Nevertheless, despite its proliferation throughout deaf educational programs and being put into practice for over two decades[1], deaf students continue to perform poorly in reading and writing. There is the real question of whether MCE is a resurrection of an already discredited method. A manually coded version of French (then called "methodical signing") was devised by the abbe Sicard for classroom use in the Paris institution in late 18th century, only to be scrapped shortly afterwards with a return to the French Sign Language (Lane, 1980). Similarly, the American Asylum for the Deaf and the Dumb (now American School for the Deaf) in Hartford and the New York

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[1] As late as 1978, all 175 residential and day schools for the deaf in the United States utilized English as the language of instruction (Lane, 1980).

Institute for the Deaf and the Dumb (now New York School for the Deaf) returned to ASL in the 1830's after an abortive experiment with MCE. F.A.P. Barnard, a teacher at the Hartford school wrote in 1835 (cited in Lane, 1980):

> The purpose of the school is not to teach signs but words. And the labor thus spent in defining a [methodical] sign is the very labor, and no other, required to teach a word...Truly the system of methodical signs is an unwieldy and cumbrous machine, and a *dead weight upon the system of instruction* in which it is recognized [italics mine] (p. 128).

There is also the further question whether the development and use of MCE constitutes a form of oppression of the deaf. Lane (1980) observes that the speakers of a dominant language have two ways of trying to annihilate a non-dominant language: replacing it or dialectizing it. Dialectization leads the users of the non-dominant language "to believe that theirs is a substandard dialect of the dominant language" which should not be used in the classroom (p. 110). Lane, as stated in the previous chapter, notes that the dialectization of ASL has had negative effects on the deaf person's perception of ASL. In a similar vein, Freire (1972) identifies "cultural invasion" as one of four types of antidialogical action (in addition to conquest, divide and rule, and manipulation) practiced by the oppressor against the oppressed. He describes it thusly: "The invaders penetrate the cultural context of another group, in disrespect of the latter's potentialities; they impose their own view of the world upon those they invade and inhibit the creativity of the invaded by curbing their expression" (p. 150). It has been suggested that MCE is a form of cultural invasion against the Deaf (Carver, 1987).

Schein (1984), in criticizing MCE, considers it a "chimera, and like that mythical beast, one not worth pursuing" (p. 73), although he concedes that MCE has facilitated acceptance of manual communication in most deaf education programs. In a further allusion to Greek mythology, MCE could be likened to the Trojan Horse which enabled the sign language of the Deaf to "infiltrate" the field.

Communication Methodology: A Postscript

Van Uden (1981), despite his strong pro-oral stance, offers a pragmatic position, one with which advocates of manual approaches would have no argument: "Graphic information is the best and most reliable for all kinds of deaf persons, if they have only learned to understand the written word" (pp. 124-125). He goes on to declare: "This fact can be accepted by devotees of different methods, by us who are advocates of the oral way, and by others who swear by the manual method using different kinds of sign language. Such an agreement may be very important coming after two centuries of discussion." Trybus (1978) would agree: "We have some evidence [from his study] that deaf children make better use of reading than face-to-face communication" (pp. 218, 220), adding that it may be a more effective channel for the communication of complex material. Papenbrock (1988) observes no significant differences in reading competence between oral and total communication deaf children. The key here is to utilize an approach towards development of reading and writing skills in deaf students that can be applied in any approach and that is independent of any communication methodology.

Learning, ideally, should transcend methodological issues and extend beyond the classroom to the entire school and social environment of deaf students in a manner that is highly visible to and readily accessible to them as propounded:

> Teaching language to the hearing impaired involves not only students and teachers but the complete staff of the school personnel from the director to the janitors, the families, and all involved in the community that surrounds the deaf child. Why? Because language involves every minute of the child's life and language is learned everywhere, not only at school" (UNESCO, 1985, pp. 11-12).

In order for language to be as freely available to the deaf child as advocated by UNESCO, the language has to be as visible as possible.

Pedagogical Issues

> **Learning is like mercury, one of the most powerful and excellent things in the world in skillful hands; in unskillful, the most mischievous**
> **- *Alexander Pope*** [2]

The Learning Processes According to Smith

Frank Smith (1988) argues that children will become effective readers and writers only if they are admitted into a community of written language users, which he calls the "literacy club," starting before they are able to read and write a single word for themselves. He draws a parallel between the community of spoken language users into which infants are "admitted." He lists benefits for infants who are "admitted" into the spoken language club: 1) They get immediate feedback and results, 2) are treated as "junior members," 3) learn from a pool of older people without formal instruction, 4) have access to a full range of activities, 5) learn at a phenomenal rate, and 6) develop a cultural bond to the language. Smith warns against trying to change the person's language, thus rejecting "the very essence of that person" (p. 4). In this respect, he makes the interesting observation: "We resist efforts to make us talk like people we separate ourselves from, and we mistrust people who try to talk as if they are in our club when they are not" (p. 4). He later adds that children will resist the language of the groups they reject or feel rejected from. It would appear at first that he was referring specifically to deaf students, but he was actually referring to minority group children in general. This is an interesting point: Deaf persons have been resisting attempts to teach them to speak like hearing persons for many years, and one is led to wonder whether they also resist efforts to teach them English.

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[2] Edwards (1966), p. 347.

Smith discusses the learning process, identifying its important characteristics: It must be 1) meaningful, 2) useful, 3) continual and effortless, 4) incidental (as opposed to intentional), 5) collaborative, 6) vicarious, and 7) free of risk. To elaborate further, learning must be incidental (Smith calls it "Can I have another doughnut?" theory of learning) in which "language is learned for its uses at the time. As it is put to use, so it is learned" (p. 7 - emphasis Smith's). Learning must be collaborative in the sense that it is a shared task in which both the learner and the teacher are equals. Learning must be vicarous in which children learn from what the others do (learning by example or modelling), "provided they are the kind of people the children see themselves as being (p. 7 - emphasis Smith's). This raises the question of the kind of role models deaf children have. This concept is explored in more detail in a discussion of the role of deaf adults in the education of the deaf in a following section. Finally, Smith considers the last characteristic as the most important. Learning must be free of punishment, failure or embarrassment. This is a key implication for the field of education of the deaf with its deficit orientation and its propensity for making most of its students feel inadequate.

In discussing the role of teachers, Smith suggests that their prime responsibility should be to ensure that "literacy clubs" are established in their classrooms, regardless of the subject matter if they are concerned with literacy in their students (this is the key concept behind the "Writing Across Curriculum" approach which is discussed later). The classroom should be full of meaningful and useful reading and writing activities with opportunities for collaboration and participation. He warns against forcing the child into "boring or painful activity" which can sour them on further learning. He cautions against the following two situations in which children do not learn: They do not understand and they are not interested. Again, this has implications for the field of education of the deaf. Many deaf students do not understand their teachers and subsequently lose interest. He warns:

> We do not see ourselves as belonging to that particular club. We are not that kind of person, and the vicarious

> engagement doesn't take place. The consequence of not being a member of the club is dramatic for children and for adults. We do not learn. In effect, the brain learns not to learn. It shuts down its sensitivity. Exclusion from any club of learners is a condition difficult to reverse (p. 23).

Smith identifies two critically important functions for teachers in guiding children toward literacy: They must demonstrate advantages of writing and help children use it themselves. In other words, they must make it possible for the children to perceive themselves as readers and writers before they are able to read and write. Again, this is another crucial implication for the field. Teachers of the deaf generally do not have high expectations of their deaf students being able to read and write well, and these students tend to internalize this perception. Smith raises a vital point for the function of the teacher:

> There is no way of helping children to see themselves as writers if they are not interested. That is why the first responsibility of teachers must be to demonstrate to children that writing is interesting, possible, satisfying, and worthwhile (p. 29).

Teachers also may have to learn along with their students if their students are to be motivated to learn. In an observation reminiscent of Smith's "vicarious engagement" above and elaborating Freire's discussion of the role of dialogue in the classroom in the preceding chapter, Shor and Freire (1987) believe that, although the teacher may know the objects of study better than their students, she/he should still "re-learn" the objects by studying them with their students. Shor & Freire imply this approach is crucial to the dialogical process: "The educator *remakes* her or his 'cognoscibility' thru the 'cognoscibility' of the educatees" (p. 100). That is, the educator's perception of the object is reshaped through dialogue with students who share their perception and critical comprehension. In other words, it is one thing to know from one's point of view, but it is another to know from another's point of view. As a result, the knowledge of the objects becomes enriched on both sides. Shor and Freire continue: "Dialogue is the sealing together of the teacher and the students in the joint act of knowing and re-knowing the object of study" (p.100). They insist that dialogue be a dynamic approach toward the object of study rather than a static transfer of knowledge from the teacher to the students.

Shor and Freire comment further:

> If the dialogical teacher announces that he or she relearns the material in the class, then the learning process challenges the unchanging position of the teacher. That is, liberatory learning is a social activity which by itself remakes authority. . . . These challenges demystify the teacher's power, open it up to change. they impose humility on the existing order. They invite the students to exercise their own powers of reconstruction (p. 101).

Texts and Reading Programs

The use of texts in reading development programs for deaf students pose a dilemma for educators of the deaf. Lane (1986) alleges that one of the reasons for the illiteracy among most deaf pupils is "the only English they ever see is neither high level nor newspaper-level but imbecile-level, reduced English" (p. 4). This is echoed by Stevens (1980) who notes the need for language-adapted materials for deaf students in which age-appropriate content could be used in a format that could be more easily grasped by them. Similarily, LaSasso (1987), referring to her 1978 study which found that most reading instruction programs for deaf students in the U.S. utilized materials, approaches and testing procedures designed for normal hearing students, discusses the impact of basal readers specially designed for the hearing impaired (e.g.: *Reading Milestones* developed by Quigley & King in 1981) that had appeared since then. She finds that such basal readers were being used extensively at the secondary levels even though they are age-inappropriate.

Freire, in analyzing the illiteracy and education of oppressed groups, notes the use of texts and primers in such situations allow educators to "deposit" their words into the learners, limiting the power of expression and creativity. Indeed, he calls them "domesticating instruments" (p. 8). It would fit in with Freire's (1972) "banking concept of education", which is described in some detail in Chapter 4.

Frank Smith (1979, 1988) echoing Freire and Lane above, as do Damerell (1985) and Bettelheim & Zelan (1982), criticizes commercial reading "programs" in the form of primers and texts, suggesting their value to classroom learning is negligible. He considers the use of such programs a form of control over students in the classroom (1988):

> Teachers need programs if they do not trust children to learn, if they feel they must control their learning every step of the way. And people outside the classroom insist on programs if they do not trust teachers to teach, if they feel they must control what teachers must do every step of the way. The issue is not pedagogical at all - it is political (p. 14).

Piaget (1970) criticizes the educational establishment for its resistance to progressive changes and for being overly concerned with the administration of older approaches at the expense of intellectual and emotional development of the child. He further adds that the child's learning and thinking processes are being stunted because many teachers are limited to a one-way instructional mode in which they simply fill in the child's minds. In addition, Smith (1971) terms the language in such books, "school language," one that is not spoken by students. In this light, Freire (1985) strongly advocates the use of reading texts that are based on real-life experiences to which the learner can relate.

Smith (1988) emphasizes the need for relevancy when developing reading and writing skills in children. Booth & Hall (1988) concur on behalf of deaf children, indicating a need to shift the focus away from "ritual" to relevance. There is a growing body of literature supporting this direction in the area of education of the deaf. Van Uden (1977) advocates "ideo-visual" reading as the first step in developing reading skills in deaf children. It is based on ideas already in the children's minds or on what they already know. Power (1980) terms it the "authentic approach" in the classroom, saying that the teacher should focus on actual experiences rather than artificial ones.

The Language Experience Approach (LEA) (Gormley & Geoffrion, 1981; LaSasso, 1983a, 1987; LaSasso & Heidinger, 1983; Stauffer, 1979) is an example. It is said to facilitate development of reading skills in deaf children. Indeed, LaSasso & Heidinger observe that at least 80% of deaf educational programs utilize LEA as a primary or supplementary method of teaching reading. However, LaSasso (1987) notes that, while LEA is used extensively, its effectiveness is not consistent, giving rise to the question of quality of instruction. Furthermore, LaSasso & Heidinger (1983) wonder whether LEA could be more effective if ASL was used. That is, they strongly recommend that teachers record verbatim in exactly the same way the child signs it (e.g., ASL) and then modify and edit it with the students' involvement. They believe LEA is effective when both the thoughts and the language used to convey those thoughts come directly from the child. LeBuffe (1980) advocates this dictation technique although he differs from LaSasso & Heidinger in that the written version of the dictation should be in standard English rather in an English gloss of ASL. Implicit in this approach is that teachers should be fluent in ASL.

Bilingualism and English as a Second Language Approaches

> **It is too much for deaf children to try to learn how to talk, how to learn English as a first language, and learn subject matter in English all at the same time. In other words, why teach English through English?** (Kannapell, 1980, p. 106)

LaSasso & Heidinger (1983) raise a valid question: whether ASL is effective as a tool in teaching English, which leads to the topic of this section: bilingualism and English as a Second Language (ESL) approaches. This topic is receiving favorable reviews quite extensively in recent literature for linguistic minority groups as well as for deaf children (e.g.: Hennings, 1978; Horner, 1975; Luetke-Stahlman, 1982, 1983; Strong, Woodward, & Burdett, 1987). Such literature, drawing on the bilingual experiences of linguistic/ethnic minorities, provide evidence that utilizing the first language enhances proficiency in a second one such as English, and that deaf children, utilizing the "native" language of the Deaf community such as ASL demonstrate superiority in English literacy skills. Brasel & Quigley (1977), in a study comparing SAT reading subtest scores of oral deaf children with those of manually-oriented deaf children, found the performance of the manual group to be superior to those of the oral group. They conclude that sign language positively affects the deaf child's ability to process print for meaning. Quigley (1980) ponders the question of teaching the deaf to read:

> Even if it can be done, is it worth the effort? This question is not as lacking in humanity as it first appears to be. Again we must look at the hundreds of years of arduous but futile striving that has gone into producing the very meager results in reading achievement we find today in our deaf children. Perhaps that effort could have been expended more fruitfully (for the deaf child) in other areas of his development. I suggest you to consider this question more carefully because it contains the seed of a philosophical difference in teaching deaf children. And this is not the ages-old controversy of manualism and oralism but rather whether the deaf child's initial language development and instruction should be in English (whether taught orally, manually, or in some combination) or in American Sign Language (p. 26).

Luetke-Stahlman cites Rosier's (1978) study of the Rock Point Navajo School as a successful example of bilingual minority education approach in which Navajo was used as the language of instruction. Rosier observes that the students in this school received 25 - 70% less instruction in English than in 1970 when all instruction was in English, but, at the same time, they performed at least two grade levels better than their peers elsewhere in the reservation in English-language schools. Such students were taught by Navajo teachers and were not introduced to English reading until well-versed in Navajo. This is the position taken by the National Indian Brotherhood (1984), in advocating the use of only the native language in pre-school and primary classes: "Transition to English or French as a second language should be introduced only after the child has a strong grasp of his own language" (p. 141). This approach or "transitional bilingualism" (Horner, 1975) gives the children an opportunity to adjust to the second language. NIB makes the following suggestions toward this end:

- Employing teacher aides specializing in native languages.
- Making use of the availability of local language-resource aides to assist professional teachers.
- Waiving "rigid" teaching requirements to enable natives fluent in native language to become full-fledged teachers.

Luetke-Stahlman (1982) concludes that "the next step for parents and educators to understand the value of using sign as a base language on which to teach the English literacy skills so desperately needed by hearing impaired students" (p. 844).

Gage & Berliner (1984) cite research evidence showing that bilingual children possess superior I.Q. and academic achievement levels in addition to displaying more positive attitudes toward members of the culture whose language they had mastered. They also note that bilingualism benefits not only the minority student but also the majority students. The authors recommend that the early education of minority-language students be bilingual and bicultural in nature and that it be provided by bilingual, native-language speakers prior to a predominantly English-based education a few years later.

Central to the bilingual concept is communication competency which is a crucial feature of pragmatics as discussed earlier. Cummins (1979) contends that students require a high degree of competence in their first language in order to attain mastery of subject matter. He affixes a label to this process: cognitive/academic language proficiency (CALP). Wells (1979) notes that the quality of communication between adults and children at home and school is a primary determinant of CALP development and expresses the concern that the mismatch of communicative abilities between deaf children and adults would result in communicative failure and the impairment of CALP skills in deaf students. Cummins (1981) later introduces the Common Underlying Principle (CUP) which sets forth the principle that experience with one of the two languages leads to the development of proficiency underlying both languages. Deaf children of deaf parents, as earlier cited, generally are superior to deaf children of hearing parents in academic achievement. Strong, Woodward, and Burdett (1987) largely attribute this to "the consistent input they receive in their first language" (p. 11) and believe this strong background in this first language activates the CUP principle at school. The authors feel that ASL, rather than MCE, is the most appropriate vehicle "in which to develop first language CALP skills, which might later be transferred to English" (p. 11).

Woodford (1987), in noting that teachers of the deaf have largely ignored the child's expertise in their first language and the potential of bilingual education, proposes the "intralanguage" approach in which constantly changing language is employed by second language users as they move along the competence continuum (Figure 5.1). This consists of starting with gestural communication and sign language and graduating into spoken English, switching back and forth until fluency in English is attained. However, she cautions against "half-measures" approximating those of some so-called "bilingual" approaches which may cause more harm than good for deaf children. Woodford does not elaborate what these approaches might be, but my conjecture is that she was referring to programs using only sign language and manually-coded English (MCE) as well as to those using Pidgin Sign English (PSE) or MCE in place of a bona fide sign language. Further research is required to determine the effectiveness of Woodford's proposal.

Figure 5.1: Woodford's Communication Competency Continuum

gesture	<-->	gesture + sign	<-->	gesture + sign + spoken English	<-->	spoken English + sign + gesture	<-->	spoken English + gesture	<-->	spoken English

Hennings (1978) makes the following suggestions for teachers having bilingual children in the classroom: 1) The teacher should be aware of and sensitive to the differences between English and the first language of their students and to design lesson sequences in English that focus on the major differences; and 2) the teacher should develop an appreciation of the culture of linguistic minority groups, displaying a positive attitude towards it. Implicit in this is that teachers of the deaf should be familiar with American Sign Language and exhibit a positive attitude towards Deaf culture.

The bilingual/ESL teaching approach is a fast-growing field, and it appears to have immense implications for the education of the deaf. Empirical studies of its effectiveness in education of the deaf are still few, but results of such tests as the one conducted by Brodesky, Cohen, & Hayes (1987) on deaf community college students in Arizona show promise. Pima College in Tucson offers its deaf students an ASL/English Studies program which "empowers the deaf student to understand and to see how ASL and English operate" (p. 43). ASL was used as the primary language tool in this program to teach English in a bicultural setting. Using an English pre-/post-test test consisting of a fifty-item grammar inventory, an original composition, and a revision task, eight deaf students were evaluated at the beginning and the end of the semester. The results from the grammar inventory are presented in Table 5.1:

Table 5.1: English Grammar Inventory Pre-/Post-test Results from the ASL/English Studies Program at Pima Community College, Fall Semester, 1986 (from Brodesky, Cohen, & Hayes, 1987, p. 54).

(Table unavailable due to inability to
obtain permission for reproduction;
refer to original material)

The authors also report that at the pre-test stage only two out of eight students could produce original compositions whereas at the end of the semester, all eight "could generate original, easily understood paragraphs with topic sentences, supporting details, and conclusions" (p. 54). The results, although representing a very small sample, lend credence to the concept that the use of ASL may enhance the learning of English as a Second Language. Further research is needed to validate this concept as Quigley and Paul (1984) suggest:

> Given the large body of research and practice with minority hearing children to draw from in establishing ASL/ESL and the probable willingness . . . of parents to have their deaf children involved in such programs, it should be possible to initiate the programs carefully, evaluate them experimentally and establish a database on their effectiveness (p. 197).

Strong (1988) describes an experimental bilingual/ESL educational environment utilizing ASL as the primary language with English as the second language, research for which is still underway. It consists of an experimental class consisting of eight profoundly and prelingually deaf students, aged four to seven years, with a fluently bilingual Deaf teacher who is a native ASL user for a short part of each school day. Its goals were: 1) "to develop and expand ASL skills and then to use that language as a medium for teaching English", and 2) "to develop an awareness of ASL and English as equal but separate languages together with an ability to recognize some of the differences between the two languages" (p. 121). This class revolves around story-telling, and popular stories were culturally adapted for an audience of deaf children (e.g.: "Thus, characters do not listen and talk on the phone, they communicate on a TTY; characters do not overhear a conversation, they watch it from a distance" [p.121]). Strong offers a syllabus (a copy of which is available in Appendix B), which is divided into two parts, the first in

ASL only and the second introducing English. The sessions are described in some detail:

> Each unit centers on a different story and focuses on a separate aspect of the language. A unit is expected to take 5 - 10 one-hour sessions and begins with the introduction to and telling of the story in ASL (either live or on videotape); this is followed by a variety of activities, including role playing, story retelling, drawing pictures, question-and -answer sessions, quiz games, and so on. Part 2 focuses on structures and functions that are realized very differently in ASL and English. In this part, stories are presented on videotape, first in ASL and then in a strict manual version of English (i.e., not PSE) [Pidgin Sign English]. Children are encouraged to look for differences in the two versions, with the teacher guiding them toward those that pertain to the theme of that particular unit. The lessons are still conducted in ASL, but now the goal is to introduce English and to show some of the ways in which it differs from ASL with a view to stimulating metalinguistic awareness in the learners (pp. 121-122).

The results of this experiment have yet to be publicly disseminated. However, Strong reports a high level of enthusiastic participation in this program on the part of the students and a high degree of support and interest by their parents. The school administration which was initially skeptical later became very supportive of it after seeing the initial results. Strong's research, hopefully, will pave the way to further empirical investigations in this area, and, ultimately, to the solution of the illiteracy problem of the deaf. Paul (1987) aptly asks: "Is a bilingual minority-language program sufficient? Given the results of other approaches, what is there to lose?"

Reading

Despite the abundance of research into developing reading skills as applied to the general population, surprisingly little research was done to examine the instructional variables that influence the development of reading skills in deaf students, raising questions about the quality of reading instruction (LaSasso, 1987). This dearth may be an indictment against the profession in the field of deafness in terms of setting its priorities. This section will examine various approaches to developing reading skills in deaf students.

Two traditional models of teaching reading in deaf children have been identified: "bottom-up" and "top-down" (Moores, 1987; Wood, Wood, Griffiths, & Howarth, 1986). The former consists of the "basics" of reading, utilizing a step-by-step, hierarchial process (Wood, Wood, Griffiths and Howarth term it the "grapheme-phoneme correspondence" [GPC]), while the latter focuses on semantics, context and prior knowledge. Moores elaborates: "Bottom-up models of reading . . . incorporate analytical, elemental procedures, whereas top-down models rely more on holistic, functional approaches" (p. 270). He notes that most teachers of the deaf are eclectic and utilize aspects of both. Wood, Wood, Griffiths and Howarth cite a model in which poor readers deficient in GPC rules rely more on "top-down" information to facilitate their reading comprehension; they consider this strategy prone to error, taking longer, and demanding more conscious effort. As a result, the poor reader reads slowly and understands less than the good reader. The authors believe deaf children are in a similar situation but twice more handicapped than the hearing reader. They explain:

> They also have available fewer linguistic resources (e.g. less knowledge of grammatical aspects of language and word meanings) than the poor hearing reader does. So, we suggest, the deaf reader is likely to put his or her intelligence to work in using paralinguistic, non-verbal and contextual cues to help understand what is being 'read' (p. 104).

They imply that integrated "top-down" and "bottom-up" approaches may be one way of alleviating this problem.

Henderson (1976) describes a case study of a deaf boy, Mark, learning to read. A reading program, with the active participation of his family, was developed for Mark, who was then 5 years and 8 months old and, at the onset, possessed a reading vocabulary of only a dozen words. Books were chosen without regard to structure or vocabulary. Word lists were developed from the materials and individual words copied onto cards and allocated with their own manual signs. One hour was set aside each day as "book time" in which everyone participates in reading, understanding, and discussion of the content matter. Mark was expected to read "aloud" through signing from the book. After one month, his vocabulary increased to 314 words. After 13 months, his root vocabulary consisted of 3410 words. Mark was subsequently tested with the Primary 1 battery of the SAT and the Gates-McGinitie Primary A & B tests which placed him at a level at least equal to or superior to hearing children at his age level (6:8).

This is a remarkable progress for a deaf child in a space of a year. In discussing Mark's case, Henderson notes that Mark was a full participant rather than a passive learner. His relationship with his parents was another important factor: intimate, trustful, and affectionate. This led to Mark's confidence in asking questions and sharing new ideas. These questions were asked not to obtain information but to enjoy the intimacy of communication with people important to him. While this program was home-based, this has implications for the classroom teacher. The key points are that the deaf child should be a full and active participant in his learning process and that classroom communication should be accessible and based on trust and intimacy which foster confidence and critical thinking skills.

In a study of a book-sharing practice between a 3 1/2 year-old deaf child and his hearing impaired mother, Andrews and Taylor (1987) observe three instances of maternal support during this practice: 1) close physical contact; 2) the use of a variety of modes of communication (gesture, pantomime, Sign, signed English, and voice); and 3) participation support. For the latter, the investigators identified fourteen strategies used by the mother to hold the child's interest and engage him in the story. A summary of these strategies is given here in an abridged form (pp. 265-268):

1. Confirmation of the Child's Understanding

1.1 Explanations -- sometimes in response to the child's questions but also supplied by the mother:

Boy: *(Referring to a picture of a mouse crying)* WHY SAD, WHY CRY, WHY CRY,WHY? *(Looks up and waits for answer)*
Mother: MAYBE MOUSE SAD, CAN'T PLAY WITH COW. SICK.SICK.

1.2 Relating text concepts to the child's background experience:

Mother: BLOWING BUBBLES
Boy: BLOW BUBBLES.
Mother: RIGHT BUBBLES. YOU LIKE TO PLAY BLOW BUBBLES?
Boy: I REMEMBER.
Mother: REMEMBER BEFORE?
Boy: TRY CATCH, MISS. I MISS. LOT OF BUBBLES. FLOATED AWAY.

1.3 Mother's confirmation of the child's response:

Boy: MAKE BUBBLES THEN POP THEM.
Mother: RIGHT.

1.4 Mother's commenting on the child's response:

Boy: DISAPPEAR, NO MORE. HOW?
Mother: DISAPPEAR BECAUSE DRY POP; DISAPPEAR.

1.5 Mother's commenting on the text or to some referent to focus the child's attention on the book and to give extra information:

Mother: *(points to picture of mouse singing and playing guitar)* LITTLE LITTLE MOUSE PLAYS MUSIC.
Boy: MUSIC.

1.6 Confirmation of the child's comprehension:

Boy: APPLE.
Mother: *(points to picture of eggs in grass)* APPLE? YOU THINK THAT is an APPLE?
Boy: NO EGG EGG.
Mother: RIGHT RIGHT.

1.7 Request for action from the child.

Mother: MY EARS HOLD MY GLASSES *(repeats idea in pantomime).*
Boy: *(imitates mother and smiles)* EARS HOLD GLASSES I SEE.
Mother: CAN YOU WIGGLE YOUR EARS?

2. Focusing Attention on the Book and its Content.

2.8 Drawing child's attention to a picture by pointing, demonstrating the action and miming:

Mother: SMILE *(points to picture of pig smiling as she signs)* THATS WHAT YOUR MOUTH IS FOR; EATING, CHEWING, POP BUBBLE GUM, BLOW BUBBLES, SMILE, AND WHISTLE *(mother whistles and points to picture of pig whistling).*
Boy: *(points to picture of mouse, mimes playing flute).*

2.9 Drawing child's attention to the text by placing her finger on a specific word:

Mother: EARS *(points to printed word "ears" at top of page).*
Boy: EARS.

2.10 Illustrating a concept in the book by touching the child's body:

Mother: LONG ARMS LONG ARMS *(runs fingers up her arm, points to arms on the picture of the monkey, then runs her fingers up Jack's arms).*

3. Specific Language Input

3.11 Explicit labelling of a word or picture especially when child failed to respond to a parent initiated question:

Mother: WHAT SMELL WHAT?
Boy : I NOT-KNOW.
Mother: FLOWERS.
Boy: FLOWERS.
Mother: FLOWERS.

3.12 Reading the text as written instead of commenting on the pictures:

Mother: MY *(points and pauses)* EYES *(points and pauses)* ARE *(points and pauses)* FOR...

13.3 Prompting the child to read a specific piece of print:

Mother: Now what's that? say MY
Boy: MY
Mother: NOSE
Boy: NOSE
Mother: IS
Boy: IS
Mother: FOR
Boy: FOR.

4. Concept Development

4.14 Relating a concept in the text/book to the child by asking a question:

Mother: WHAT YOUR NOSE FOR?
Boy: NOSE
Mother: LOOK WHAT DO?
Boy: I NOT-KNOW
Mother: *(provides label)* SNEEZE ACHOO!
Boy: SNEEZE ACHOO!
Mother: RIGHT WHAT BLOW?
Boy: NOSE TISSUE BLOW
Mother: RIGHT WHAT DOING?
Boy: SMELL

The above two case studies provide excellent examples of how the interactive learning process between parents or teachers and a deaf child should be conducted. The parent utilizes in an uncritical and undemanding fashion whatever communication modality that could be shared with and used by the child. It should be noted from the second study that grammatical structure is a low priority at this point of time. The objective is to cultivate the child's interest in reading, develop concepts, vocabulary, and linguistic abilities and to introduce the child to the "conventions of literacy" (Andrews & Taylor, p. 269).

Truax (1978) identifies three major reading functions and makes suggestions for developing reading skills in deaf children. She stresses that the teacher, before implementing a reading program, should "examine his own definitions of reading and the reading process" (p. 294).

- Recreational reading - Truax believes that every reading program should prepare its students for pleasure reading. She observes that adults generally do not want to be quizzed about what they read, although they may want to discuss the material with others. The same principle should be extended the child. The child "does not need to justify a selection or feel responsible for identifying details, remembering the sequence of events, or summarizing the main ideas" (p. 295). Recreational reading includes activities such as storytelling sessions and drama or role-playing.

- Functional reading - Opportunities should be provided to hearing impaired students to learn how to read and use reading materials. That is, they need opportunities to apply what they read to their daily routine, such as cookbooks, manuals for repair or assembly, advertisements for buying, game instructions, directional or road signs and job applications. Truax suggests that teachers of the hearing impaired, starting even at the pre-school level, incorporate such aspects as a part of their daily activities.

- Informational reading - This prepares the student for making use of printed material in specific subject matter areas. Truax points out that it is necessary for many school, occupational and social activities and suggests that daily newspapers and weekly magazines receive special attention as a form of social information.

It is possible for the teacher to merge all three major functions into a single approach. Truax uses the example of a science unit on birds: the use of science texts on birds, stories and poems about birds, and manuals on how to build bird feeders which the children can place outside the window to observe birds. Central to Truax's discussion is the creation of an atmosphere in where the deaf student could learn to appreciate the value of reading and in where it engenders in him a desire to apply it to all aspects of his life.

LaSasso (1983b), citing the difficulty in obtaining interesting, readable material for unmotivated or language-handicapped students, advocates using material such as the *National Enquirer* to foster an interest in reading. She notes that the *Enquirer* is closer to the interests of teenage readers and its mean grade level of readability is Grades 6 - 7, not to mention its abundance of pictures and colloquialisms. This concept ties in with Stevens' recommendation above that age-appropriate material be utilized for deaf students. A similar approach was applied last year in an elementary classroom at the Alberta School for the Deaf, in which the "Transformer" toys became the central subject of reading. The entire class, including the teacher, is involved in this topic, which was the choice of the pupils; "Transformer" comic books and printed material are brought in, and the exploits of the "Transformers" are discussed. Closed captioned videos of the animated version of the "Transformers" are even brought in and shown in the classroom. Their teacher, who is Deaf, observes that such materials provide better incentive to reading than standard readers and that her students eventually "branch out" to other topics. This approach is the kind of flexible teaching approach advocated by Smith.

Townsley (1985), a Latin professor at Gallaudet University, notes that Latin comprises the base for 60% of English vocabulary and that high school students who take Latin typically score 150 more points (out of a total of 800) on the Scholastic Aptitude Test (SAT) than the average SAT taker. He further adds that students whose native language is not English and who take Latin make sudden and extraordinary leaps in vocabulary and verbal skills, advancing an average of a full year above those not taking Latin. To test the effectiveness of Latin instruction on Gallaudet students' English vocabulary, Townsley adminstered the Advanced Vocabulary Subtest of the Stanford Achievement Test to 20 students in his Latin classes as a pre-test at the beginning of the semester and as a post-test at the end of the semester. They registered a mean improvement of 0.8 grade equivalent in a single semester. While the results are encouraging, it must be cautioned that this experiment was not scientifically conducted - e.g., a lack of a control group. Carver (1985), as noted earlier, identifies among the factors that contibuted to his literary skills: study of Latin. He describes his experience :

> I would like to pay particular attention to how my comprehension of English vocabulary mushroomed after

> taking up Latin. With Latin, I began to see how many English words were formed and understood their use by means of Latin-based prefixes and suffixes. A particularly revealing moment came to me when I understood why the word "manufacture" was used; when I saw the Latin word, *manus* (hand), and associated it with *facire* (to make), it dawned on me that "manufacture" literally meant "to make by hand" or "hand-make." After that, many more English words were unlocked and comprehensible without the need for a dictionary. This led me to wonder whether it would be of value if the deaf were encouraged to learn how to discern the meaning of each word by looking at its roots" (p. 15).

It is a very promising area meriting a serious investigation in the field of deafness with a view to the possibility of making Latin a necessary part of deaf education curricula.

The "Visual Literacy" approach (Debes & Williams, 1978) utilizes a wide variety of visual media, not necessarily only in the form of written English. Debes & Williams believe that the utilization of visual media strengthens language and learning skills in students, both deaf and hearing. However, Damerell (1985) is strongly critical of such an approach, saying that literacy is undermined by the excessive use of audio-visual equipment in the classroom. He cites the "Visalanguage Series" developed by Newby at the Pennsylvania School for the Deaf in 1969 as an example of the failure of visual instructional material for developing literacy skills in deaf children. LeBuffe (1979) agrees, noting the use of overhead projectors can stifle discussion in the classroom, when the purpose of classroom discussion should stimulate critical thinking skills and, ultimately, literacy skills.

Captioned TV, if current research holds (Mehler, 1988; National Captioning Institute [NCI], 1983, 1985), may prove to be a powerful instrument in promoting reading skills in deaf children. In a study conducted at Harvard University, 500 adult ESL students were tested before and after watching television with and without closed captioning; results showed significant improvement in reading and comprehension for all those who were exposed to captioning (Price, 1983). In another 1983 study involving 100 hearing impaired students in schools for the deaf in Chicago and Maryland, it was shown, through the use of reading subtests of the SAT, that the group exposed to captioned TV showed significantly higher scores than the group exposed to non-captioned TV (NCI, 1983). As this is a recent phenomenon, very little research has been done in regard to the use of captioning in the teaching of reading (NCI, 1985). An example of this is a research project involving 41 deaf students ranging in age from 13 to 15 and eight teachers in a Chicago school (NCI, 1985). The teachers were asked to include at least ten half-hour captioned TV lessons as a part of their reading program. The teachers reported an overall improvement in comprehension, interest and motivation and sight vocabulary retention. The investigators conclude:

> Results of this study indicate positive support for the use of captioned TV in the teaching of reading to hearing-impaired students. . . . Since a strong sight vocabulary is necessary for comprehension of print, closed-captioned TV can be viewed as an aid to comprehension. Further support for closed-captioned TV as an aid to comprehension comes from teachers' reports that closed-captioned TV facilitated comprehension, motivation and quality of learning. . . . Television, which is sometimes said to contribute to reading problems, may now be used

> as one of the solutions to these problems. The combination of an entertaining picture stimulus with written words appears to be a powerful tool for reading instruction (NCI, 1985, p. 12).

The potential of closed-captioning cannot be ignored, especially when its applications to very young deaf children are considered. Research is virtually non-existent in this aspect, and the fact that children acquire much of their language in their first five years makes such research and its application imperative. I spoke to a group of parents of deaf children during the 1988 Summer Parent - Deaf Child Learning Vacation Experience in British Columbia on the topic of the need to take the fullest advantage of the young deaf child's visual mode during these critical years, and closed-captioning was among the highly recommended vehicles. I was suprised to hear from some of the parents that they do not have closed-caption decoders because they did not think their children ready for them until after the age of five. My response was that the visual ability of the deaf child should never be underestimated and that they are being deprived of additional opportunities to develop their cognitive skills.

Writing

> **How do you "teach" writing? In the traditional sense, you don't! It evolves through daily opportunities to write and is based on how the students view themselves as writers. (Bensinger,** Santomen & Volpe, 1987, p. 19).

Ciocci & Morrell-Schumann (1987) agree with the above premise: "Writing cannot be taught; it can, however, be nurtured through environment and approach" (p. 123). Writing, for many deaf persons, is an extremely difficult, but not impossible, task. It typically consists of the following characteristics: 1) sentences tend to be shorter than those of hearing children; 2) the use of complex sentences is developmentally delayed; 3) writing is in a rigid, stereotypic style; and 4) more determiners, nouns, and verbs and fewer adverbs, auxiliaries, and conjunctions are used than by hearing children (Quigley & Power, 1972). If the above premise is correct, then writing will have to be developed in deaf persons as a communicative process, but not necessarily through a formal instructional situation. In concurring, Smith (1988) questions the emphasis on writing instruction and practice. He believes that children must learn to read in a special way in order to learn to write. That is, they must possess prior knowledge. He uses the example of newspapers: One must read newspapers first in order to learn how to write for newspapers. Textbooks are not sufficient for such a purpose. This chapter discusses the various approaches to developing writing skills in deaf students.

Bensinger, Santomen and Volpe (1987) state that deaf students have a fear of writing, blocking them from further development of their writing skills. This is best illustrated by the following observation of a 12-year-old deaf student in the act of writing (Carver, 1987b):

> Whenever Cory is asked to write something, he becomes very tense and grips his pen until his knuckles become white, causing him to write in a very sloppy fashion. Cory often loses patience or becomes frustrated to the point of tears after writing a few sentences. To him writing is a major, arduous chore (p. 1).

Bensinger, Santomen and Volpe describe an approach at the Pennsylvania School for the Deaf (PSD) designed to help deaf students overcome this fear and learn to enjoy writing. It is a free, interactive writing process which is based on three fundamental principles: i) the overall aim of education is autonomy; ii) language development occurs best in a natural and practical context; iii) learning is a social process. The authors believe that if all three are interwoven, "one is guided towards an instructional writing approach that is based on student-generated topics, writing skills (e.g. grammar, spelling, etc.) that are set within the context of students' own stories, where conferencing and peer feedback are encouraged, and teacher decisions are based on each student's individual development" (p. 20). The bottom line is that the student, not the teacher, is in control of his work with two key goals: to increase enthusiasm and to decrease frustration in writing. However, the authors do not offer any documentation confirming the success, if any, of such an approach at PSD.

Karpinski (1987) raises four major philosophical points in terms of writing in a school situation:

- Writing should be integrated into the curriculum rather than being an extrinsic subject.
- The writer should seek some practical goals through written expression and should always be appropriately rewarded for successful effort.
- Writing should be a part of a 2-way communication process with alternate turn-taking between two parties.
- Instructor should be as uncritical as possible and handle written production "tenderly."

The last point is an important one. Karpinski elaborates: The teacher "must remember that a person's writing is an extension of his/her being, and any criticism of self-expression can be misinterpreted by the unsophisticated writer as a criticism of the student himself/herself" (p. 199). Smith (1988) agrees:

> Written language is for ideas, action, reflection and experience. It is not for having your ignorance exposed, your sensitivity bruised, or your ability assessed. . . . Teachers should protect themselves and children from the disabling consequences of evaluation. . . . *Emphasis on the suppression of errors results in the suppression of writing* [italics mine] (pp. 29-30).

Many deaf adults, as typified by the example of Kannapell above, can attest to the fact their writing was subjected to a great deal of correction by their teachers throughout their education. In a similar vein, Kelly (1987) notes that teachers of the deaf are in a hurry, suggesting that they slow down and alter their instructional strategies: "They should work to contain their predilection to banish syntactic errors immediately from their students' writing" (p. 193). LeBuffe (1980) agrees and suggests gradually attacking such errors in the following order, starting with the most minor: 1) capitalization, 2) punctuation (chiefly periods), 3) spelling of simple words, 4) number (singular and plural mistakes), 5) subject-verb agreement. He further suggests that such errors be identified by code letters without being directly corrected by the teacher so that the students could recognize and correct their own errors.

Ciocci & Morrell-Schumann (1987) describe a "process-oriented approach" at the W. Ross School for the Deaf in Longmeadow, Massachusetts; it consists of a whole language approach incorporating three curricula that overlap each other: reading, writing and language. This contributes to overall language and cognitive development of each child. The authors subscribe to Frank Smith's (1982) dictum that children learn to write by writing and that writing should precede reading. Unfortunately, the authors do not provide documentation on the effectiveness of their program.

"Writing Across the Curriculum" (WAC) (McDonald, 1986; Olson, 1987), is an approach adopted by the Writing Centre in 1983 at Gallaudet University in which various departments collaborate to help deaf students improve their learning and writing skills while going through Gallaudet. According to McDonald, WAC encourages teachers to think of themselves as writers, and when both teachers and students write regularly back and forth, it becomes a recursive process. This method ties in closely with Smith's "literacy club" concept discussed above.

The Electronic Networks for Interaction approach (ENFI) (Batson & Peyton, 1987) adopted also by Gallaudet University for deaf students, utilizes the interactive mode via computer communication between Gallaudet students and hearing students in other Washington-area universities. According to Batson and Peyton, ENFI creates opportunities for deaf students to experience "conversational" English in a lively, authentic, and purposeful way as opposed to the artificial and "charade-like" atmosphere of writing classes. The authors elaborate:

> This technique can be used to do collaborative brainstorming and group free-writing, to write collaborative stories, display sample paragraphs,

> demonstrative revising, do sentence combining as a class, and so on. It gives teachers a powerful opportunity to freely manipulate text and show students how to work with text in ways not usually possible. What the teacher does in an ENFI classroom is not up to him or her: ENFI is not a curriculum but a concept expressed in a cluster of techniques to create a less artificial writing environment.

The key is the natural use of language in this type of interaction, and this approach fits in closely with Smith's concept of a "community of written language users" as discussed earlier.

Research on the use of Telephone Devices for the Deaf (TDDs) in enhancing literacy skills in deaf persons is surprisingly scant despite their availability for over twenty-five years. It is an area that merits serious investigation, especially with the advent of Message Relay Services across North America which facilitate telephone communication between TDD users and non-TDD users. A qualitative verbal observation made by the supervisor of Edmonton Telephones' Message Relay Centre (MRC), Freda Lukala, is worth noting. Lukala reports an overall improvement in English usage by deaf users of the MRC over five years since its inception in 1984.

The variety of approaches to developing writing skills in deaf students described above share a common denominator - writing is, and should be, learned as an interactive process. The conversational approach advocated by Wood, Wood, Griffiths, and Howarth (1986) need not be limited to the oral or sign modes of communication. This principle can and should be extended to writing.

Summary and Implications

Curriculum Considerations

Mason and Carver (1986) observe that the ideal objective of a curriculum is to provide students with a well-rounded education that becomes the basis of their future livelihood and with the opportunity to acquire knowledge and skills in an orderly fashion rather than in a very time-consuming trial-and-error fashion. In an analysis of the Alberta Education Curriculum for the Hearing Impaired, they observe:

> People involved in the development and implementation of curriculum for hearing impaired education are well aware of the low success rate as evidence turns up in countless cases. They are also well aware of the wide discrepancy between the ability of the deaf to process the language of the curriculum [English] and their ability to process a language, particularly sign language. This discrepancy is a well known and documented fact; yet very little action has been done to really analyze the discrepancy. An explanation has to be traced to their language bias; this bias could make it unthinkable [for them] to believe that it is possible to use sign language as a basis for attaining educational goals (p. 93).

Mason and Carver raise questions about the focus of existing curricula and programs on the defective hearing function rather than capitalizing on the fully functional visual channel, stating that the time has come to take a hard look at the way educational goals for the deaf are interpreted. They consider the design and development of new curricula which makes maximum use of the visual channel of "utmost importance and vital to the educational success of the deaf student" (p. 95).

UNESCO (1984), in noting that curricula for the education of the deaf "have been inefficient, too narrow, and . . . have not fully succeeded" (p. 13), points to the need to develop a new type of curriculum through "a careful study of theoretical and research models available in literature" (p. 13) that can be modified as new information surfaces. Among the curricular considerations are:

- The concept that the language of deaf children is developmental, not deviant.
- The language of instruction be completely visible.
- The opening up of the field of education of the deaf to specialists from other fields - e.g. mathematics, science, and literature - especially in the area of curriculum development.
- The inclusion of social information instilling affective values normally taken for granted by hearing students.
- The extension of the curriculum to include pre-school and adult education.
- The need to stimulate active and creative participation from children.

Despite the multiplicity of programs and approaches that are available to the deaf student, Gregory (1987) reminds us to be mindful of the highly individualized needs of each deaf student:

> In terms of practice we must be cautious about slavishly following prefabricated materials, e.g. programmed texts, professional texts in general, and computer programs. We must remember that no author, no matter how well experienced in the field of deafness, can accurately predict the writing strengths and weaknesses of a particular student (p. 34).

Wood, Wood, Griffiths, and Howarth (1986) make an observation which sums up this chapter well. In noting that arguments pertaining to linguistic and academic achievements of hearing impaired children have been inordinately focused on the communication "method," they indicate that the real focus should be on the *style* and *quality* of the linguistic and educational environment.

Summary

Traditional approaches to educating the deaf and various communication methods in common practice have so far been ineffective in terms of enhancing the literacy status of the deaf student. Certain methods such as the auditory approach actively discourage the development of reading skills in deaf children until they possessed a degree of competence in spoken language as late as the age of twelve. There is the real question of whether education of the deaf should de-emphasize its "special education" orientation and assume the form of a minority education and whether the bilingual (ASL/ESL) approaches would be workable. There is sufficient evidence showing that they are feasible and suggesting that the bilingual approach should be given every chance to prove itself in the deaf educational field.

It is possible for a deaf student to attain high levels of literacy independent of any communication method through the print language medium, highlighting the need for further research in this area. Captioned television is already showing its potency in this respect. While the bilingual approach is advocated in the sense that it provides for greater opportunities in promoting a positive self-concept and fluency in a first language, the needs of deaf students in non-manual programs still need to be met. The use of a visible, print language medium in an interactive mode is probably the most effective approach. One of Smith's key concepts is the "literacy club" which utilizes writing as a medium of communication between teacher and student in an undemanding, non-threatening, and enjoyable fashion and in which both participate as equal partners. This literacy club concept is central to the new approaches now being developed in the deaf educational field such as ENFI, Writing Across the Curriculum, and dialogue journals, and it should be a major focus of research in deafness.

Relevancy of reading matter is a major concern. Many reading programs are inappropriate for deaf students, and those designed especially for the deaf are probably ineffective to a large degree. Highly individualized reading programs developed in the classrooms are probably more effective than standardized reading programs. Reading and writing instruction should be a dynamic, social, pragmatic, and interactive process involving all the participants.

VI: CONCLUSION: IMPLICATIONS AND SUGGESTIONS

> **There is in the gap between our highly idealistic goals for schooling in our society and the differentiated opportunities condoned and supported a monstrous hypocrisy . . . We will only begin to get evidence of the potential power of pedagogy when we dare to risk and support markedly deviant classroom practices - *John Goodlad (A Place Called School)*[1]**

This thesis has endeavoured to explore the broader aspects of the literacy situation of the deaf and to identify the underlying factors contributing to a very serious problem which will reach a critical stage in the imminent future when the rapidly changing nature of technology and the labour market will overtake the current capability of the deaf to compete in the labour market. It appears that traditional approaches to educating the deaf based on the deficit model have proven unworkable and contributed largely to the illiteracy situation of the deaf. The review has identified at least four major gaps in the field of deafness which may have a significant impact on the literacy status of the deaf: 1) American Sign Language, 2) deaf professionals and educators, 3) habilitative approaches which enhance the use of the visual channel and other sensory channels, and 4) presence of genuine classroom dialogue.

Illiteracy in the deaf population is prevalent and widespread; it is not limited to any particular communication mode. There is ample evidence showing that illiteracy is not the direct outcome of deafness, but rather of the societal response to deafness. The existence of highly literate, profoundly and prelingually deaf persons from across the communication spectrum shows that it is not an an impossible proposition. Furthermore, as the literature suggests, the means to produce literate deaf students are probably available and within our reach. The difficulty lies in their implementation.

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[1] From Shor & Freire (1987).

Freire (1985) raises a sobering point:

> Illiteracy is one of the concrete expressions of an unjust social reality. Illiteracy is not strictly a linguistic or exclusively pedagogical or methodological problem. It is political, as is the very literacy through which we try to overcome illiteracy (Freire, 1985, p. 10).

He suggests the solutions to this problem may not necessarily be that simple and limited to methodological or pedagogical areas. For example, the ASL/ESL bilingual approaches have been offered as a possible solution, but it may be difficult to implement them at the grade school level, since English-only instruction is the law in most Canadian provinces and American states. In this light, political measures may be required to allow for a greater degree of flexibility in order to correct and to prevent the illiteracy problem of deaf persons.

It has been shown that the century of aural/oral dominance has not improved the quality of education of the deaf and that it may have exacerbated the educational problems of the deaf. It is a classical example of the "cure being worse than the disease." In addition, newer approaches such as Total Communication or Manually Coded English do not seem to have improved the situation considerably. Time has come to reassess the overall philosophy of education of the deaf: Whether we should regard deafness as a deficit in need of correction or we should regard deafness as secondary to the entire developmental process of the deaf child. This may entail the elimination or modification of the "treatment" orientation of education of the deaf and the application of the universal language acquistion and literacy skill development principles to the deaf. Educators and researchers will also need to reassess their priorities in the field of education of the deaf. More specifically, they will have to address the question of what is more important for the deaf student: the development of adequate spoken English skills or the development of adequate literacy skills in addition to knowledge of and skills in other core subject areas. Adequate spoken English skills by themselves will not gain the students access to post-secondary education and training; adequate literacy and academic skills by themselves will.

Evidence establishing illiteracy as a deliberate tool of oppression to maintain the deaf in a marginalized state remains inconclusive. However, there appears to be sufficient evidence showing that the current illiteracy status of the deaf is a major outcome of the oppressive policies and approaches instituted since the 1880 Milan Congress. In addition, the field of education of the deaf is overwhelmingly dominated by hearing persons. It has been shown that most educators and professionals in the field of deafness today, whatever their intentions, are trapped in a vicious cycle not of their making as they struggle to solve this dilemma. In this light, sensitivity and understanding is called for in most cases, especially when Deaf cultural action is demanded in the education of the deaf. In this case, it may be counterproductive for Deaf persons to attack individual educators and professionals for their "mistakes" (more accurately, values) when such values were instilled in them in teacher training and other professional preparation programs.

At the same time, if Freire's (1972) oppression theories hold, these professionals cannot break out of this cycle and "liberate" the deaf on their own. The initiative must come from the Deaf people themselves. The professionals, according to Freire, must risk "an act of love" (p. 35) and enter into a true solidarity with the deaf by ceasing to regard them as "objects" and starting to regard them as "persons who have been unjustly dealt with, deprived of their voice, cheated in the sale of labor" (p. 35). As opposed to the antidialogical action of cultural invasion, Freire proposes the dialogical action of cultural synthesis, explaining:

> In cultural invasion, their actors draw the thematic content of their action from their own values and ideology; their starting point is their own world, from which they enter the world of those they invade. In cultural synthesis, the actors who come from 'another world' to the world of people do so not as invaders. They do not come to *teach* or to *transmit* or to *give* anything, but rather to learn with the people, about the people's world (italics Freire's, p. 181).

The serious dearth of deaf professionals and adults in all aspects of the field of deafness appears to have a negative impact on the literacy status of the deaf population. Their presence is crucial to the self-concept of the deaf student, and it also invalidates or mitigates the deficit model principle. Their involvement in the professional aspects of this field also plays a crucial role in sensitizing their hearing colleagues and parents to the unique requirements of the deaf child, not to mention improving the hearing-deaf communication situations and skills. High priority should be assigned to the training and employment of deaf adults in all aspects of the field, ranging from early intervention programs to professional training programs. Every serious consideration should be given to the possibility of relaxing rigid employment requirements to allow for the employment of capable though under-qualified deaf adults in para-professional roles. Whether hearing professionals would perceive as a threat to themselves the increase of deaf professionals in the field is still open to question. However, if these professionals are sincerely interested in the well-being of deaf children, then they would most likely welcome this development. Toward this end, a greater commitment is required from governments towards the professional preparation of deaf persons in the field of deafness.

Teacher training programs with their deficit model orientation have been identified as a major factor in the illiteracy situation, and, in the same vein, they have the potential to do the most good. To accomplish this, their philosophical approaches and methods need a careful re-evaluation to assess their impact on this situation and possibly to re-structure their orientation to reflect the new realities as Boston University has done. Such a restructuring would entail the entrenchment of an automatic periodic review of the overall program philosophy and the development of strong research components which could evaluate or test innovative concepts and approaches. These programs will be strengthened by the presence of Deaf and hearing impaired professionals.

Another area of concern is the quality of dialogue between parents or educators and deaf children. Dialogue is identified as the key to communication and linguistic competence, and ultimately literary competence. The literature suggests that most teachers of the deaf: 1) do not know ASL, 2) cannot understand or be understood by their deaf students very well, and/or 3) initiate or control the classroom communication situation much of the time. Freire (1972) clearly indicates that educational situations which are antidialogical in nature are in effect oppressive. In order to enhance the literacy status of the deaf, teachers of the deaf across Canada and the United States may need to reassess their communication skills with a view to upgrading them. Since many deaf children use ASL as their language outside the classroom, their teachers may be well advised to become familiar with it to the point of being able to engage them in everyday conversation, even though the official language of instruction is English in most places. Priority, therefore, should be assigned to providing ASL training to teachers who utilize Total Communication and/or MCE as well as to parents. Teachers who are unable to communicate well with their deaf students and to improve such skills could very well consider a career change. Again, teacher training programs will need to reassess whether they are adequately preparing their students for communication with deaf students and to consider new measures such as ASL training. Further research into the quality of communication between teachers and deaf students is needed.

The role of parents and the home environment is a major determinant of the literacy status of the deaf child. Studies show that deaf children of deaf parents have a better chance of attaining to a higher literacy status than deaf children of hearing parents. The reality, however, is that at least ninety percent of deaf children are born to hearing parents who are unfamiliar with deafness. Unless parents come to terms with their child's deafness and take measures to enhance the communication situation, chances for the deaf child attaining to functional literacy status are grim. It has been said that the deaf child's greatest handicap is not his deafness but his parents.

It should be noted, however, that most parents are sincere and want the best for their deaf children, but they generally lack understanding and knowledge of deafness. This understanding and knowledge, unfortunately, tend to come initially from the medical and clinical fields which revolve around the deficit model orientation and shape the viewpoint of the parents accordingly. As has been noted in the review, this orientation has served to exacerbate the educational situation of the deaf. Early intervention and pre-school programs are largely built on the deficit model. Very few incorporate the bilingual/bicultural elements of Deaf culture and ASL and employ Deaf adults[2]. Carver and Rodda (1987) suggest that a much larger portion of services and resources be assigned to developing adequate support systems for the parents of deaf children. On this note, a review of such programs' underlying philosophy and policies is called for with a view to de-emphasizing their deficit model orientation and to moving towards socio-cultural and highly visual approaches. Coordination with grade school and adult education programs as called for by UNESCO in the preceding chapter is a feasible goal.

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[2] An excellent example is described in Ch. 15, Freeman, Carbin, and Boese, (1981).

Much has been made of the visual orientation of the deaf child. The review has left no doubt that the deaf child's visual channel can and should be exploited for maximum effect during his crucial early years to strengthen his cognitive and linguistic base. This visual cognitive and linguistic input would be in the form of signs, gestures, lip movements, drawings and print media. To restrict his cognitive and linguistic input to the auditory channel could border on the criminal. The field of deafness is heavily manned by specialists who focus on the hearing and speech functions. There does not appear to be any preponderance of specialists who cultivate or train the visual abilities of deaf students - e.g.: manual communication specialists, vision specialists, and reading/writing specialists. The last group is of special interest. Educational programs serving deaf students may have to consider choosing between speech/hearing specialists and reading/writing specialists if they come under pressure to produce literate students. Priority should be assigned to empirical studies fully investigating the visual capabilities in linguistic and cognitive processing in deaf children and comparing them with those of the auditory channel with a view to developing appropriate intervention strategies.

This thesis appears to endorse the bilingual approach using ASL/ESL to the exclusion of other approaches such as the aural/oral one. However, as it has been pointed out, the bilingual approach is one that has never been given the opportunity to establish itself on an empirical basis, whereas other approaches have had such opportunities and failed to produce literate deaf students. Anectodal evidence suggests that it had positive effects on the literacy skills of deaf students in the 18th and 19th centuries prior to the rise of oralism and the dominance of hearing people of deaf education. Of all, the communication modes, ASL offers the deaf child the best opportunity to quickly attain to the degree of communication and linguistic competence crucial to literary competence. There is ample research showing that bilingual education is effective in developing English literacy skills in minority language students, and there is no reason why deaf students should differ from such students. Further research such as the one by Strong (1988) is needed to establish the effectiveness of bilingualism throughout the entire educational programme in terms of promoting English literacy skills.

It is possible as noted above for deaf students to attain literacy through non-manual approaches and independent of any communication mode such as parent modelling, relaxed home communication situations, greater degree of student control of dialogue, greater use of the print media and closed-captioned television, writing as an interactive communication mode, and so on.

In this light, reading and writing instructional approaches have to shed their artificiality and to take on a natural, living and organic meaning for these students. They also need to have instilled in them the value of reading and writing for their everyday needs. Educational programs for deaf students need to permeate reading and writing throughout their curricula; they may have to consider providing inservice training to all teachers, regardless of their subject areas, to enable them to develop interactive reading/writing skills in order to optimize opportunities for students to utilize reading/writing as a communication tool with their teachers and as a learning tool for their coursework. A major goal of education of the deaf should be to instill in deaf students a sense of independence and a value of reading and writing by encouraging them to rely on print media as their major source of knowledge in all subject areas. A number of deaf persons who acquired their education on their own in this manner indicate that this is indeed possible. I bear living testimony to it, as I am one of those self-educated and highly literate deaf persons.

The following editorial appropriately underpins this thesis. Implicit in it is the theme that education is an interactive process and that the field of education of the deaf has yet to meet such expectations and to involve the deaf themselves in their own education. Only when the deaf are restored to their rightful places and involved in all aspects of research, decision-making, and programming in the field of deafness can the literacy situation of the deaf begin to improve.

Know Thyself[3]

(Editorial unavailable due to
inability to obtain permission for
reproduction; refer to original material)

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[3] Editorial in the *Australian Teacher of the Deaf* (v. 26, 1985).

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APPENDIX A: Description of Teacher of the Hearing Impaired Training and Deaf Studies Programs at Boston University

ship upon completion of course work are also required.

The program in counseling psychology is fully accredited by the American Psychological Association (APA). Accreditation, however, is distinct from licensure. The licensing of psychologists is a state function, and students are urged to contact directly the licensing boards of those states in which they are interested in practicing.

Successful applicants are expected to have a minimum undergraduate GPA of 3.0, a minimum graduate GPA of 3.5, and a minimum score of 60 on the Miller Analogies Test (MAT).

Requirements for the Doctor of Education program are as follows.

1. A minimum of two years of full-time course work in residence (beyond the master's degree), to include 16 semester courses (64 hours), and not including dissertation advisement. Study on a part-time basis to complete the comprehensive examination and dissertation requirements normally entails an additional twelve to eighteen months of study.

2. The following courses are required during doctoral study (with students receiving credit for courses or their equivalents taken during a master's year):

SED CE 726	Clinical Assessment: Psychological Testing
SED CE 737	Counseling: Philosophy, Theory, and Practice
SED CE 739	Psychology of Vocational Development
SED CE 741	Cross-Cultural Perspectives in Counseling and Psychology
SED CE 746	Clinical Practice I (2 semesters)
SED CE 826	Individual Intelligence Testing
SED CE 841	Human Development: Theories and Applications
SED CE 847	Theories of Group Counseling
SED CE 855	Evaluation
SED CE 856	Seminar: Counseling Psychology
SED CE 946	Advanced Practicum (2 semesters)
SED CE 948	Supervision in Counseling
SED DC 999	Dissertation Advisement Two semester hours per semester until completion of course work; three semester hours per semester thereafter.
SED RS 653	Research Methods in the Behavioral Sciences
SED RS 850	Research Design

One course in psychopathology, one in history and systems of psychology, and one in each of the four core areas of psychology: biological, cognitive, individual, and social. Lists of the courses that meet these requirements are available.

3. A comprehensive treatise to be completed before the end of the last year of full-time doctoral course work, and prior to receiving approval for dissertation study.

4. A full-year internship after the completion of course requirements.

5. A dissertation based on original research germane to counseling psychology.

Courses

The counseling faculty offers SED CE 500 Introduction to Counseling for undergraduates. In addition, the following courses are open to all graduate students:

SED CE 727	Clinical Assessment: Psychodiagnosis
SED CE 736	Pupil Personnel Services: Development and Organization
SED CE 739	Psychology of Vocational Development
SED CE 742	Child Abuse
SED CE 825	Issues in Adult Development
SED CE 835	Counseling Women
SED CE 838	Psychology of the Young Adult
SED CE 840	Family Systems and Family Therapy (A & B)
SED CE 841	Human Development: Theories and Application
SED CE 845	Counseling Psychology and Organizational Contexts
SED CE 848	Action- and Play-Oriented Therapies
SED CE 880	Seminar: Human Sexuality

Bilingual Education

617/353-3260

Program Contact
Maria E. Brisk

Degrees and Certificate Offered
BS, EdM, CAGS
EdD (Developmental Studies)

The purpose of the Bilingual Education Program is to prepare teachers, specialists, teacher-trainers, and researchers for entry into various educational fields, and to increase their understanding of bilingualism, bilingual/bicultural education, and the individual. The program emphasizes training and research, including course work and field work in bilingual programs.

The Program offers degrees at both the undergraduate and graduate levels and provides a course of study toward a Certificate of Advanced Graduate Study. In addition, it has a field-extension component which offers students the opportunity to apply the theoretical concepts learned during their course work. Placements are made in collaboration with various public school systems.

The goal of the undergraduate program is to train students to become elementary, middle, and secondary school teachers who will be able to teach bilingual pupils in English and/or another language. Programs emphasize methodology of first- and second-language teaching, multicultural education, and cross-cultural materials and curriculum development. Students may further specialize in teaching English to speakers of other languages (TESOL).

The master's curriculum is designed to give students a background in bilingual education while they acquire expertise in a particular educational field offered by the School of Education. All EdM students must complete a project which relates to their specialization within bilingual education.

The Certificate of Advanced Graduate Study (CAGS) provides the opportunity for individuals already holding a master's degree in a different field to gain a thorough knowledge of the tools and concepts of bilingual education.

Students interested in doctoral work related to bilingual education should refer to the description of the EdD in Developmental Studies (specialization in Literacy, Language, and Cultural Studies). Students interested in doctoral work related to bilingual language development and bilingual education should be fluent in two languages (including English).

Courses

SED BI 311	Introduction to Bilingual-Bicultural Education
SED BI 504	The Student Teaching Experience: Bilingual, TESOL, and Modern Foreign Language
SED BI 515	Methods in Bilingual Education and TESOL
SED BI 535	Literacy Development for Bilingual Students: Reading, Writing, and Computer Use
SED BI 586-9	Student Teaching Bilingual Education: K-3; 1-6; 5-9, 9-12
SED BI 620	Issues in Bilingual/Bicultural Education
SED BI 621	Bilingualism and Biliteracy
SED BI 744	Assessment of Bilingual Students
SED BI 748	Bilingual Education Reading Laboratory
SED CT 538	Curriculum Development in Multicultural Education
SED SO 525	Workshop in Cultural Awareness

Cross-Cultural Specialization

The bilingual component of the School of Education offers a specialization in Cross-Cultural Education which is open to all students who work, or plan to work, with ethnic minorities or international populations. The purpose of this specialization is to provide expertise in cultural differences and cross-cultural communication. The program will be of particular interest both to social service practitioners who deal with cultural minorities in the United States and to professionals in the international field.

Two options are available: (1) Students may combine their majors in interdisciplinary fashion with a sequence of courses in the cross-cultural field. Students take a minimum of three courses in cross-cultural studies in combination with a major area of specialization. (2) The CAGS or EdM program in Bilingual Education offers specialization in cross-cultural training and curriculum development. For doctoral level work, see the description of the EdD in Developmental Studies (specialization in Literacy, Language, and Cultural Studies).

Courses

SED CT 538	Curriculum Development in Multicultural Education
SED SO 525	Workshop: Cultural Awareness
SED SO 526	Intercultural Education
SED SO 713	Field Experience: Intercultural Education

For more information contact Dr. Jaime Wurzel, Bilingual Program, 353-3253.

Health Education

617/353-3295

Program Contact
Gerald S. Fain

Degrees and Certificate Offered
EdM, CAGS

Health Education is a graduate program in which the course of study offers three sequences. The School Health Education sequence is designed for the individual who wishes to teach or supervise health education at the post-secondary level. The Community Health Education sequence is concerned with the broad range of services offered to the general community through voluntary and public health agencies, hospitals, rehabilitation organizations, neighborhood health centers, and community action programs. The Health and Lifestyle Education sequence provides students with an academic background in nutrition, medical self-care, substance abuse, exercise, and leisure. The curriculum is designed for persons committed to comprehensive health care, with a special focus on adapting health practices to meet the needs of persons with disabilities.

Preventing illness through the improvement of individual and group health practices is a growing field of study that is exciting and challenging. It is now imperative to educate people for healthful living. The call is for prevention with an adventurous, broad-spectrum approach to the well-being of the total society. In this respect, the Boston area has a myriad of opportunities to both discover and implement health education practices. As in other programs in the School of Education, field study is a part of the Health Education program.

Courses

SED HE 221	Health and Lifestyles
SED HE 521	Current Methods in Health Education
SED HE 522	Community Health
SED HE 523	Applied Nutrition
SED HE 554	Student Teaching: Health Education, Grades 5-12
SED HE 720	Selected Problems in Health Education
SED HE 722	Development of the Health Curriculum
SED HE 723	Drug Education
SED HE 724	Sex and Family Living Education
SED HE 726	Environmental Health Education
SED HE 731	Field Work: Health Education

Hearing-Impaired Education

617/353-3205 TTY or Voice

Program Contact
Robert Hoffmeister

Degrees and Certificate Offered
Deaf Studies: BS
Hearing-Impaired Education: EdM, CAGS
Developmental Studies: EdD
Language Behavior: PhD

Two programs are offered: a graduate program in education of the hearing-impaired and an undergraduate program in deaf studies.

Education of the Hearing-Impaired

Within the graduate program there are two sequences. The sequence in education of the hearing-impaired is designed for students interested in teaching hearing-impaired children in a variety of school settings. Students develop competencies in the nature of language, linguistic theory, language acquisition, the teaching of language, and the teaching of speech, as well as instructional strategies for the teaching of reading, math, science, and social studies. Students are also required to choose a focus from the areas of linguistics, curriculum development, the education of multiple-handicapped children, counseling, administration, English as a second language, or bilingual/bicultural education. Students participate in two practica. The first is a one-semester, half-time practicum for improving the speech production of hearing-impaired children. The second is a one-semester, full-time student teaching practicum divided into two settings; one in a day school/program and the other within a residential school. This program offers state and national certification in education of the hearing-impaired.

The sequence in ASL/Deaf Studies is a one-year, full-time noncertification course of study for those students who wish to (1) further professional growth in their current careers by enhancing their knowledge and experience or (2) attain the background necessary for further graduate study or various career options. Teachers of the deaf may use the course credits toward the Council on Education of the Deaf (CED) requirement for professional and ongoing certification. Course work can be taken in the areas of ASL and ASL linguistics, deaf culture and history, deaf literature and education, counseling, deaf psychology, and bilingualism/biculturalism.

Students interested in doctoral work related to Hearing-Impaired Education should refer to the description of the EdD in Developmental Studies (specialization in Literacy, Language, and Cultural Studies) or to the description of the program in Language Behavior found in the bulletin of the Graduate School.

Core Courses

SAR CD 535	Introduction to Audiology
SED LS 560	Language Acquisition: Introduction*
SED LS 570	American Sign Language I*
SED LS 571	American Sign Language II*
SED LS 590	American Sign Language III
SED LS 591	American Sign Language IV
SED LS 602	Introduction to Language*
SED LS 672	American Sign Language Structure
SED MA 561	Mathematics for Teachers**
SED RE 501	Teaching of Reading**
SED SE 501	Special Education Introduction

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*Prerequisite for both EdM sequences

**Prerequisite for education of the hearing-impaired only

Education of the Hearing-Impaired Core Requirements

SED HI 572	Psychology of the Deaf
SED HI 573	Expressive and Receptive Vocal Processes
SED HI 574	Practicum: Vocal Processes
SED HI 575	Language Instruction for Hearing-Impaired Children
SED HI 576	Advanced Language Instruction for Hearing-Impaired Children
SED HI 577	Instructional Strategies for Hearing-Impaired Children
SED HI 678	Student Teaching Practicum: Hearing-Impaired Program

Deaf Studies

The undergraduate program in deaf studies is designed for students who wish to prepare for a variety of careers requiring knowledge of American Sign Language and deaf culture and history, or for those preparing for further training in ASL, counseling, education of the deaf, psychology, or other related fields. Many courses are taught by deaf faculty. In addition to American Sign Language, core courses include the history, sociology, culture, psychology, and education of the deaf. A one-semester field experience allows students to put into practice the knowledge gained from the courses. To obtain teaching certification, students must also pursue a major in other education programs.

Core Courses

CLA AN 351	Language, Culture, and Society
SED BI 311	Introduction to Bilingual/Bicultural Education
SED DE 550	History and Culture of the Deaf
SED DE 551	Seminar I: Deaf Literature and Education
SED DE 552	Seminar II: Selected Topics in Deaf Studies
SED DE 553	Introduction to Counseling Deaf Individuals
SED DE 554	Field Experience in Deaf Studies

Language Behavior

617/353-3194

Program Contact
Paula Menyuk

Degree Offered
PhD

The Language Behavior program in the Graduate School and the School of Education provides specialized training and research experience for graduate students interested in studying the biological, social, and cognitive factors that affect language development and behavior in individuals and groups. Students who successfully complete the program are awarded the degree of PhD in the study of language behavior.

Schole, the computer network developed by the Leisure Education Program, is demonstrated by Pat Shank, Mark Havens, and Professor Gerald Fain. The telecommunications system was developed for use by disabled persons.

For further information please consult the bulletin of the Graduate School or contact the program director, Dr. Paula Menyuk, at the School of Education, 605 Commonwealth Avenue, Boston, MA 02215.

Leisure Education

617/353-3295

Program Contact
Gerald S. Fain

Degrees and Certificate Offered
BS, EdM, CAGS

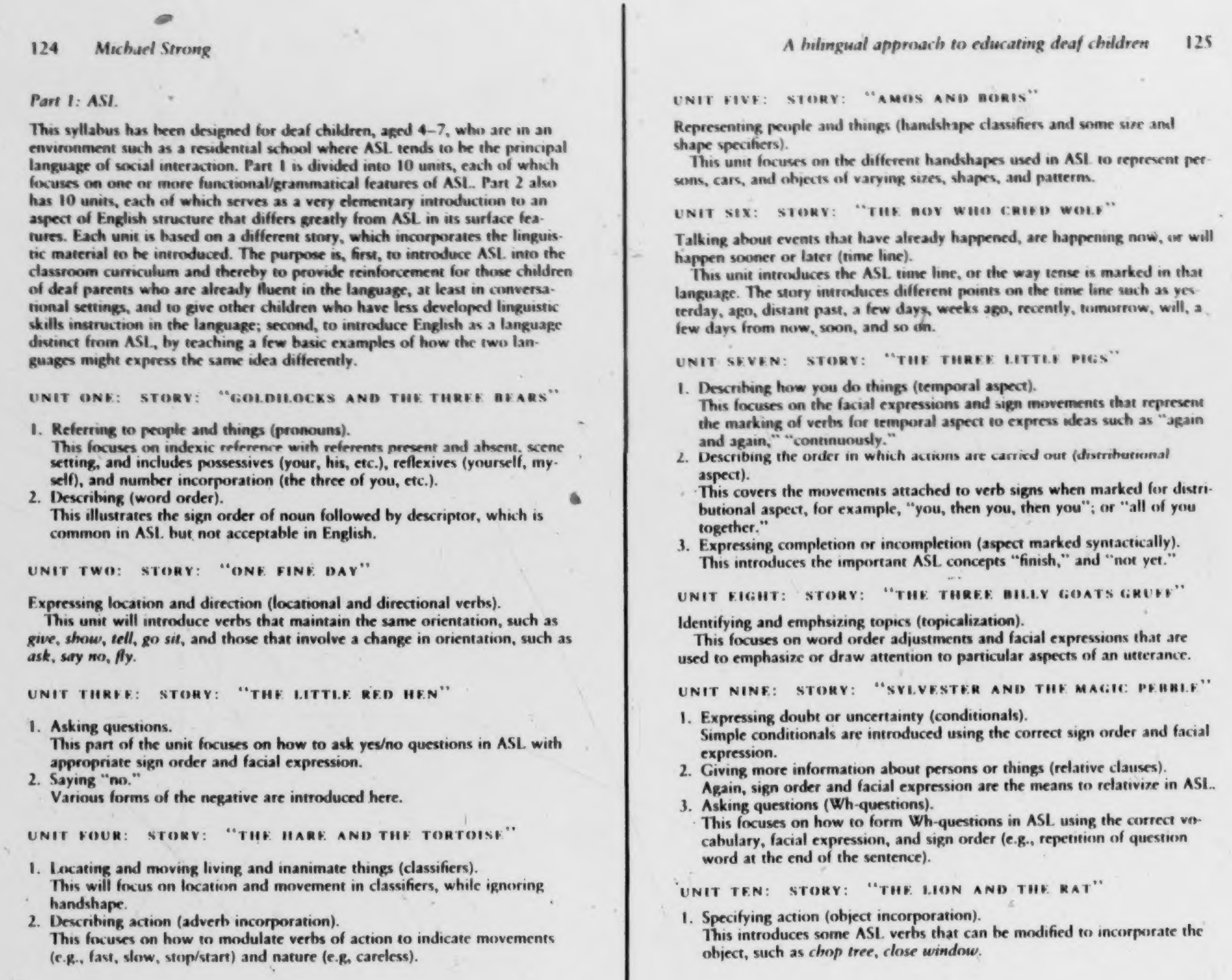
The Leisure Education Program is conceptually rooted in both liberal and professional studies. The primary purpose of the program is to prepare professionals to work in the field of leisure. Since the time of the progressive education movement, leisure has represented the ideas of freedom and participatory democracy. Leisure is in this sense the substance of education and one of its most valued outcomes.

Given the program's strong ideological commitment to freedom of liberal thought, the leisure studies student must have an egalitarian perspective on service delivery. The policies, practices, and programs of the leisure professions celebrate human dignity, uniqueness, and potential, and require the leisure educator to demonstrate inclusionary thinking. Age, sex, ethnic and cultural background, family status, potential for employment, and performance on standard measures should not determine access to leisure. The student in the Leisure Education Program is challenged to interpret the meaning of this mission as it relates to diverse cultures and societies.

The Leisure Education Program attracts students interested in gaining knowledge in how societies view and manifest leisure. The application of this knowledge focuses on social, political, economic, and educational concerns across the life-span. Through an academic foundation based on the principles of liberal education, students specialize in careers that provide them with the opportunity to work in varied public and private settings.

Undergraduate students are required to complete a minimum of 64 credits in liberal studies, which are distributed across the University in accordance with students' interests and University policy. Of these, a minimum of 8 credits must be taken in the areas of moral philosophy, philosophy of education, and ethics. One course in human development is required, as well as proficiency in a second language. American Sign Language is accepted as an option for the second-language requirement. Awareness and understanding of other cultures are

APPENDIX B: ASL/English Storytelling Syllabus (from Strong, 1988, pp. 123-127)



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Part 1: ASL

This syllabus has been designed for deaf children, aged 4–7, who are in an environment such as a residential school where ASL tends to be the principal language of social interaction. Part 1 is divided into 10 units, each of which focuses on one or more functional/grammatical features of ASL. Part 2 also has 10 units, each of which serves as a very elementary introduction to an aspect of English structure that differs greatly from ASL in its surface features. Each unit is based on a different story, which incorporates the linguistic material to be introduced. The purpose is, first, to introduce ASL into the classroom curriculum and thereby to provide reinforcement for those children of deaf parents who are already fluent in the language, at least in conversational settings, and to give other children who have less developed linguistic skills instruction in the language; second, to introduce English as a language distinct from ASL, by teaching a few basic examples of how the two languages might express the same idea differently.

UNIT ONE: STORY: "GOLDILOCKS AND THE THREE BEARS"

1. Referring to people and things (pronouns).
   This focuses on indexic reference with referents present and absent, scene setting, and includes possessives (your, his, etc.), reflexives (yourself, myself), and number incorporation (the three of you, etc.).
2. Describing (word order).
   This illustrates the sign order of noun followed by descriptor, which is common in ASL but not acceptable in English.

UNIT TWO: STORY: "ONE FINE DAY"

Expressing location and direction (locational and directional verbs).
This unit will introduce verbs that maintain the same orientation, such as *give, show, tell, go sit*, and those that involve a change in orientation, such as *ask, say no, fly*.

UNIT THREE: STORY: "THE LITTLE RED HEN"

1. Asking questions.
   This part of the unit focuses on how to ask yes/no questions in ASL with appropriate sign order and facial expression.
2. Saying "no."
   Various forms of the negative are introduced here.

UNIT FOUR: STORY: "THE HARE AND THE TORTOISE"

1. Locating and moving living and inanimate things (classifiers).
   This will focus on location and movement in classifiers, while ignoring handshape.
2. Describing action (adverb incorporation).
   This focuses on how to modulate verbs of action to indicate movements (e.g., fast, slow, stop/start) and nature (e.g, careless).

A bilingual approach to educating deaf children 125

UNIT FIVE: STORY: "AMOS AND BORIS"

Representing people and things (handshape classifiers and some size and shape specifiers).
This unit focuses on the different handshapes used in ASL to represent persons, cars, and objects of varying sizes, shapes, and patterns.

UNIT SIX: STORY: "THE BOY WHO CRIED WOLF"

Talking about events that have already happened, are happening now, or will happen sooner or later (time line).
This unit introduces the ASL time line, or the way tense is marked in that language. The story introduces different points on the time line such as yesterday, ago, distant past, a few days, weeks ago, recently, tomorrow, will, a few days from now, soon, and so on.

UNIT SEVEN: STORY: "THE THREE LITTLE PIGS"

1. Describing how you do things (temporal aspect).
   This focuses on the facial expressions and sign movements that represent the marking of verbs for temporal aspect to express ideas such as "again and again," "continuously."
2. Describing the order in which actions are carried out (*distributional* aspect).
   This covers the movements attached to verb signs when marked for distributional aspect, for example, "you, then you, then you"; or "all of you together."
3. Expressing completion or incompletion (aspect marked syntactically).
   This introduces the important ASL concepts "finish," and "not yet."

UNIT EIGHT: STORY: "THE THREE BILLY GOATS GRUFF"

Identifying and emphsizing topics (topicalization).
This focuses on word order adjustments and facial expressions that are used to emphasize or draw attention to particular aspects of an utterance.

UNIT NINE: STORY: "SYLVESTER AND THE MAGIC PEBBLE"

1. Expressing doubt or uncertainty (conditionals).
   Simple conditionals are introduced using the correct sign order and facial expression.
2. Giving more information about persons or things (relative clauses).
   Again, sign order and facial expression are the means to relativize in ASL.
3. Asking questions (Wh-questions).
   This focuses on how to form Wh-questions in ASL using the correct vocabulary, facial expression, and sign order (e.g., repetition of question word at the end of the sentence).

UNIT TEN: STORY: "THE LION AND THE RAT"

1. Specifying action (object incorporation).
   This introduces some ASL verbs that can be modified to incorporate the object, such as *chop tree, close window*.

2. Noun–verb distinction. Finally, some noun/verb pairs are introduced that share the same sign but are distinguished only by an additional movement, for example, *sit/chair*, *drive/car*, *fly/plane*.

A unit normally takes at least one week and possibly two weeks of classroom time, at one hour per day. Stories have been chosen to facilitate the appropriate focus/foci for the particular unit, but frequently include elements from other units.

Part 2: English

Part 2 introduces several elementary English constructions and shows how the same function is performed differently in ASL and English. Each story is told first in English then in ASL, with the teacher continuing to use ASL as the medium of instruction.

UNIT ONE: STORY: "THE LITTLE GIRL AND THE BIG BEAR"

Referring to people and things (pronouns).

This unit introduces the English nominative pronouns, as represented by the English sign system Signing Exact English (SEE 2).

UNIT TWO: STORY: "THE BEAUTIFUL RAT"

Describing (basic word order of the English noun phrase: article, adjective, noun).

The purpose of this Unit is to introduce the definite article and focus on the English word order adjective + noun in comparison with the ASL word order noun + adjective. (Although the English word order is acceptable in ASL also, the differing forms are presented in order to reinforce the concept of two distinct languages).

UNIT THREE: STORY: "WHERE CAN AN ELEPHANT HIDE?"

Saying "no" (negatives).

This unit introduces the English forms *no* and *not*, and the contractions *can't*, *don't*, and *won't*.

UNIT FOUR: STORY: "CINDERELLA"

Asking questions.

This unit introduces the *wh*-question words with the verb *to be*, and yes/no questions of the form "do you . . . ," "did you . . . ," and "can I. . . ."

UNIT FIVE: STORY: "THE HORSE, THE FOX, AND THE LION"

This unit introduces a number of English adverbs, most of which carry the suffix *-ly*, which in SEE 2 is represented as a separate sign tagged on to the adjective sign (e.g., SLOW-LY; HAPPY-LY, etc.).

UNIT SIX: STORY: "HANSEL AND GRETEL"

Describing things that have happened or will happen (past and future tenses.

The simplest forms of the past and future tense are introduced in this Unit. Thus, the sign PAST following an English verb is used to indicate past time, and the sign FUTURE before the verb is used for future time, in accordance with the SEE 2 system.

UNIT SEVEN: STORY: "THE MAGIC PORRIDGE POT"

Talking about things that are happening now (present progressive; habitual).

This unit introduces the two verb inflections *-ing*, and *-s* for the third person singular, and also the verb *to be* (copula) in the present tense.

UNIT EIGHT: STORY: "JACK AND THE BEANSTALK"

Prepositions.

Some of the most frequently used English prepositions are introduced here, particularly in environments where ASL would normally incorporate them into the verb.

UNIT NINE: STORY: "LITTLE WOOD DUCK"

Giving more information about persons or things (relative clauses).

This introduces the use of "who" and "that" in English relative clauses.

UNIT TEN: STORY: "LEO THE LOP"

Expressing doubt or uncertainty (conditionals).

This is difficult and should be included only if the children have mastered the present and future tense forms.

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